

# FIELD MAINTENANCE PRINT SET

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MP00489	FIELD MAINTENANCE PRINT SET BDV11-A
MP00487	FIELD MAINTENANCE PRINT SET BA11-N
MP00566	FIELD MAINTENANCE PRINT SET MSV11-D
MP00586	FIELD MAINTENANCE PRINT SET DLV11-J

[illegible]

# PDP11/23

## Field Maintenance

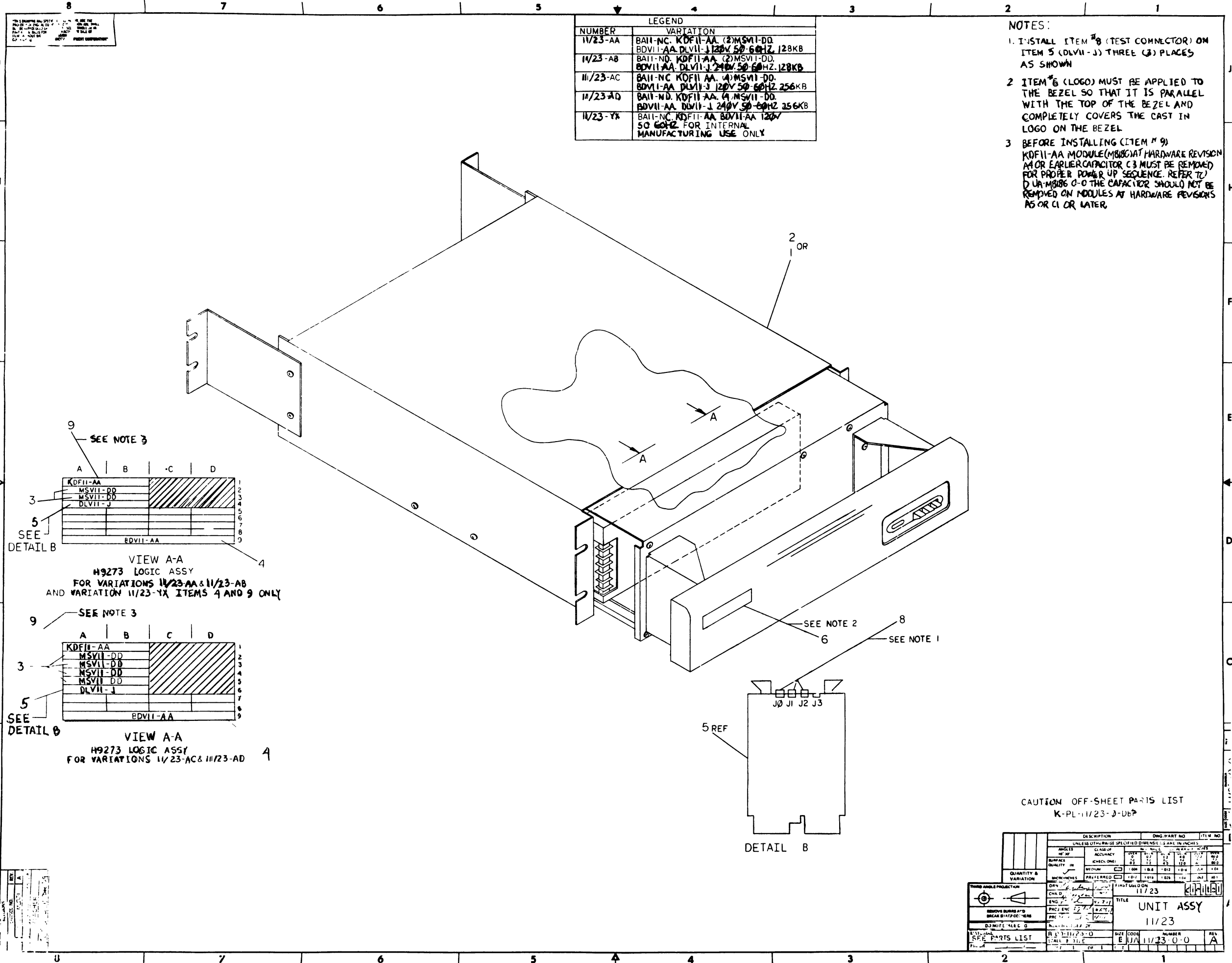
### Print Set

# Digital Equipment Corporation

PRINT SET ORDER NO.  
MP00740

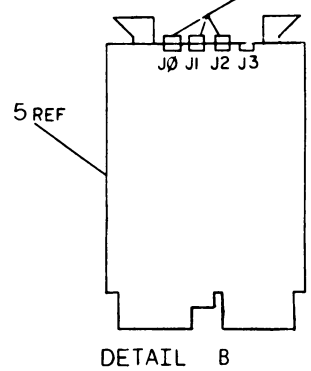
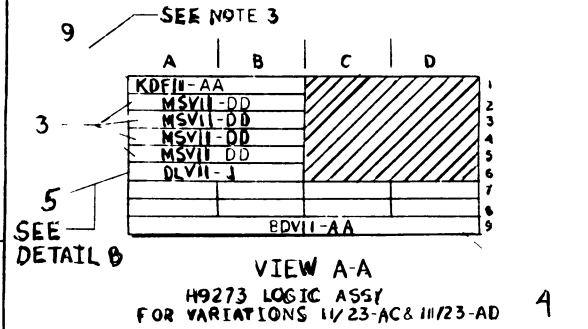
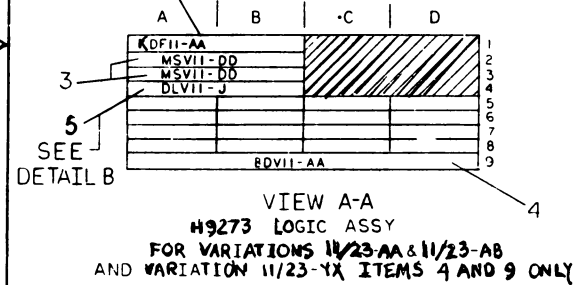
REVISIONS				USED ON OPTION/MODEL		DRN.	DATE	<div>digital</div>										
REV	CHG. NO.	DATE		11/23-AA		PEG TESLA	15 JAN 79	TITLE:  FIELD MAINT PRINT SET PDP11/23										
A	11/23-M1001	12-79		11/23-AB		CHK'D	DATE											
				11/23-AC		<i>M. Bessie</i>	11-9-79											
				11/23-AD		PROJ. ENG.	DATE											
						<i>J. Kalyan</i>	11 APR 79											
						FIELD SERV.	DATE											
				SHEET 1 OF 1		<i>Bruce Connolly</i>	12 Apr 79	SIZE B	CODE TC	NUMBER 11/23-0-1					REV. A			
								DIST.										

SIZE **B** CODE **TC** NUMBER **11/23-0-1** REV. **A**



LEGEND	
NUMBER	VARIATION
11/23-AA	BAII-NC, KDFII-AA (2)MSVII-DD, BDVII-AA, DLVII-J 120V 50-60HZ 128KB
11/23-AB	BAII-ND, KDFII-AA (2)MSVII-DD, BDVII-AA, DLVII-J 240V 50-60HZ 128KB
11/23-AC	BAII-NC, KDFII-AA (4)MSVII-DD, BDVII-AA, DLVII-J 120V 50-60HZ 256KB
11/23-AD	BAII-ND, KDFII-AA (4)MSVII-DD, BDVII-AA, DLVII-J 240V 50-60HZ 256KB
11/23-YX	BAII-NC, KDFII-AA, BDVII-AA 120V 50-60HZ FOR INTERNAL MANUFACTURING USE ONLY

- NOTES:
1. INSTALL ITEM #8 (TEST CONNECTOR) ON ITEM 5 (DLVII-J) THREE (3) PLACES AS SHOWN
  2. ITEM #6 (LOGO) MUST BE APPLIED TO THE BEZEL SO THAT IT IS PARALLEL WITH THE TOP OF THE BEZEL AND COMPLETELY COVERS THE CAST IN LOGO ON THE BEZEL
  3. BEFORE INSTALLING (ITEM #9) KDFII-AA MODULE (MSBGM) AT HARDWARE REVISION A4 OR EARLIER CAPACITOR C3 MUST BE REMOVED FOR PROPER POWER UP SEQUENCE. REFER TO DUA-MSBGM-0-0 THE CAPACITOR SHOULD NOT BE REMOVED ON MODULES AT HARDWARE REVISIONS A5 OR C1 OR LATER.



CAUTION OFF-SHEET PARTS LIST  
K-PL-11/23-0-067

QUANTITY & VARIATION	DESCRIPTION	ENG. PART NO.	ITEM NO.
1	UNIT ASSY	11/23	1
1	BAII-NC, KDFII-AA (2)MSVII-DD, BDVII-AA, DLVII-J 120V 50-60HZ 128KB	11/23-AA	2
1	BAII-ND, KDFII-AA (2)MSVII-DD, BDVII-AA, DLVII-J 240V 50-60HZ 128KB	11/23-AB	3
1	BAII-NC, KDFII-AA (4)MSVII-DD, BDVII-AA, DLVII-J 120V 50-60HZ 256KB	11/23-AC	4
1	BAII-ND, KDFII-AA (4)MSVII-DD, BDVII-AA, DLVII-J 240V 50-60HZ 256KB	11/23-AD	5
1	BAII-NC, KDFII-AA, BDVII-AA 120V 50-60HZ FOR INTERNAL MANUFACTURING USE ONLY	11/23-YX	6

REVISIONS

NO.	DATE	DESCRIPTION
1	11/23	INITIAL DESIGN

APPROVED

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

ENGINEER: [Signature]

DATE: 11/23

SCALE: 1"=1"

UNIT ASSY

11/23

11/23-0

11/23-0-0

1

SHEET A1 OF A1

11 NOTE: NOTE 1: SEE ITEM #5. PART #DLV11-J MUST BE M8043 CS REV E OR LATER.  
12 NOTE: NOTE 2: VARIATION YX IS FOR INTERNAL MANUFACTURING USE ONLY

REVISION HISTORY			BASIC PART NO: 11/23		DRN: P. TESLA		DATE: 15-JAN-79		DIGITAL			
ENG	ECO NUMBER	REV	SECTION A OF A									
---	INITIAL	*	SECTION. VARIATION INDEX		CHK'D: D. BRIGHAM		DATE: 11-APR-79		TITLE PARTS LIST			
RL	11/23-ML001	A	[A] AA,AB,AC,AD,YX						UNIT ASSY 11/23			
			[B]		DES.ENG.: J. KALAGHER		DATE: 15-JAN-79					
			[C]		RESP.ENG.: J. KALAGHER		DATE: 15-JAN-79		DOCUMENT NUMBER			
			[D]						SIZE	CODE	NUMBER	REV
			[E]		MFG.ENG.: R. HAMILTON		DATE: 11-APR-79		K	PL	11/23-0-DBP	A
			[F]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
					E-UA-11/23-0-0				Z0212A.PLS		12	
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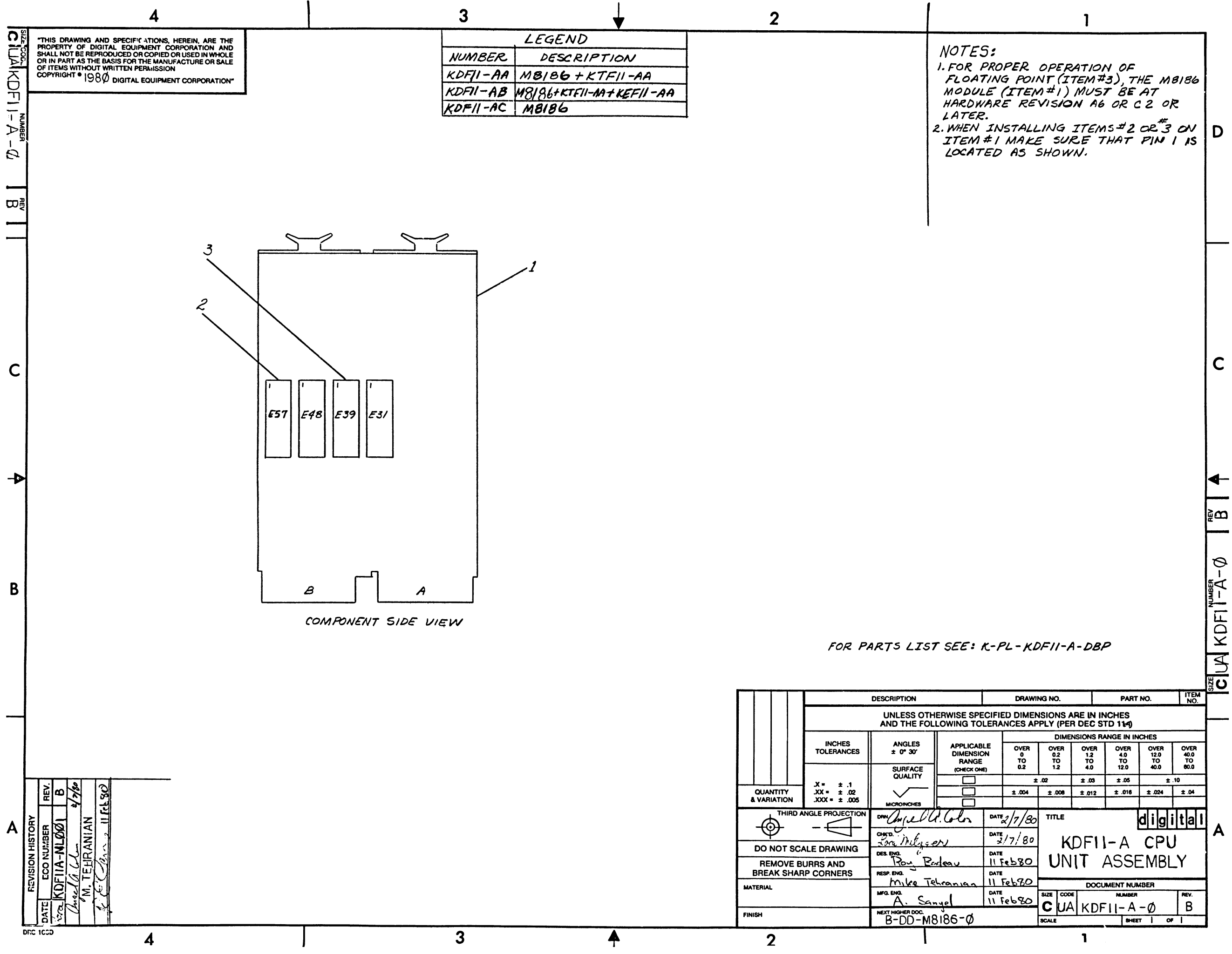




SHEET A1 OF A1

REVISION HISTORY			BASIC PART NO: KDF11		DRN: P.BLODGETT		DATE: 21-JAN-80		D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A		CHK'D: W.J. MAHER		DATE: 21-JAN-80		TITLE PARTS LIST			
MT	KDF11A-ML001	B	SECTION. VARIATION INDEX		CHK'D: W.J. MAHER		DATE: 21-JAN-80		DUAL HEIGHT CPU			
			[A] AA,AB,AC		DES.ENG.: R. BADEAU		DATE: 21-JAN-80					
			[B]		RESP.ENG.: R. BADEAU		DATE: 21-JAN-80		DOCUMENT NUMBER			
			[C]		MFG.ENG.: A. HOFFMAN		DATE: 21-JAN-80		SIZE	CODE	NUMBER	REV
			[D]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:		EDIT #	
			[E]		B-DD-KDF11-A-0				Z0473B.PLS		4	
			[F]									

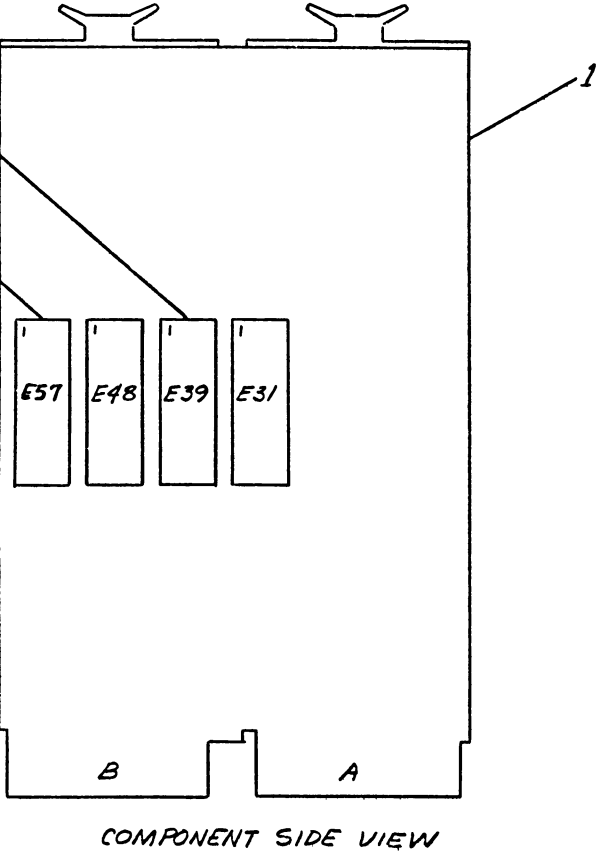
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LEGEND	
NUMBER	DESCRIPTION
KDFII-AA	M8186 + KTFII-AA
KDFII-AB	M8186 + KTFII-AA + KEFII-AA
KDFII-AC	M8186

NOTES:  
1. FOR PROPER OPERATION OF FLOATING POINT (ITEM #3), THE M8186 MODULE (ITEM #1) MUST BE AT HARDWARE REVISION A6 OR C2 OR LATER.  
2. WHEN INSTALLING ITEMS #2 OR #3 ON ITEM #1 MAKE SURE THAT PIN 1 IS LOCATED AS SHOWN.



COMPONENT SIDE VIEW

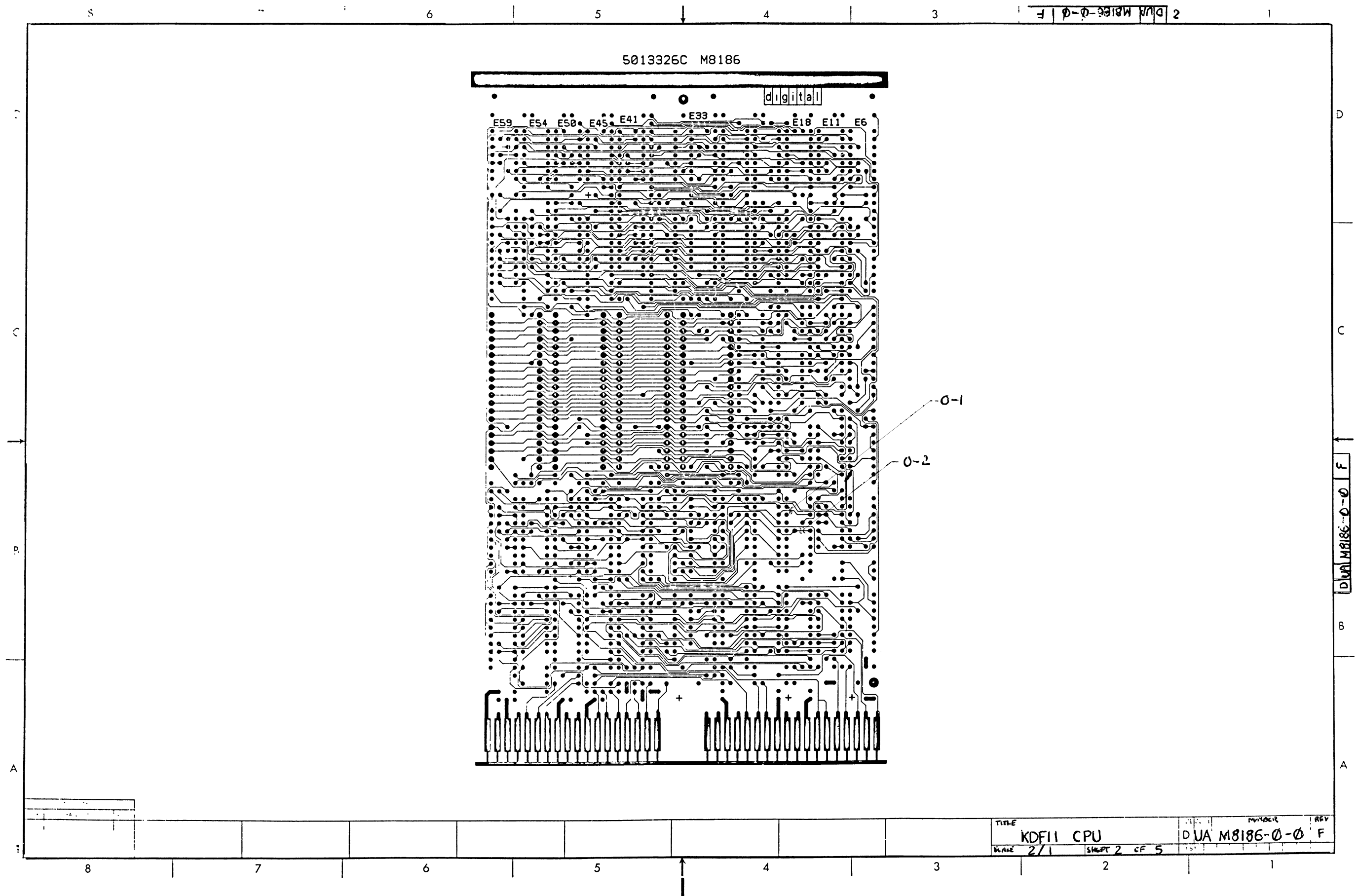
FOR PARTS LIST SEE: K-PL-KDFII-A-DBP

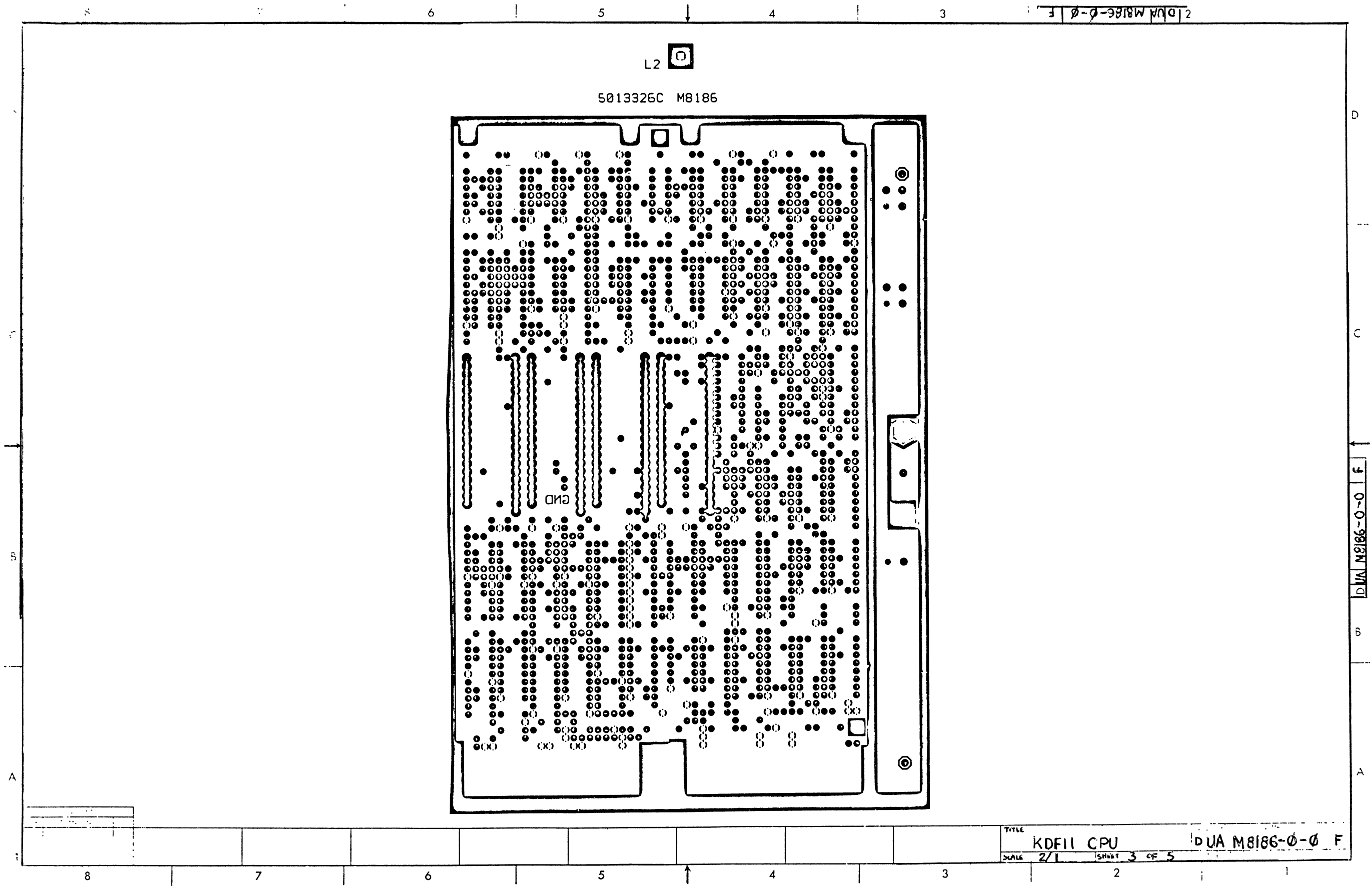
REVISION HISTORY	
DATE	ECO NUMBER
11 Feb 80	B
11 Feb 80	A
M. TEHRANIAN	

DESCRIPTION		DRAWING NO.	PART NO.	ITEM NO.						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND THE FOLLOWING TOLERANCES APPLY (PER DEC STD 114)										
INCHES TOLERANCES X = ± .1 XX = ± .02 XXX = ± .005	ANGLES ± 0° 30' SURFACE QUALITY MICROINCHES	APPLICABLE DIMENSION RANGE (CHECK ONE)	DIMENSIONS RANGE IN INCHES							
			OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0	OVER 12.0 TO 40.0	OVER 40.0 TO 80.0		
			± .02	± .03	± .05	± .10				
			± .004	± .008	± .012	± .016	± .024	± .04		
THIRD ANGLE PROJECTION		DATE 2/7/80	TITLE			digital				
DO NOT SCALE DRAWING		DATE 2/7/80	KDFII-A CPU UNIT ASSEMBLY			DOCUMENT NUMBER				
REMOVE BURRS AND BREAK SHARP CORNERS		DATE 11 Feb 80								
MATERIAL		DATE 11 Feb 80	C UA KDFII-A-0			B				
FINISH		DATE 11 Feb 80								
NEXT HIGHER DOC. B-DD-M8186-0		SCALE			SHEET OF					



1 MS# 1803770





L2

5013326C M8186

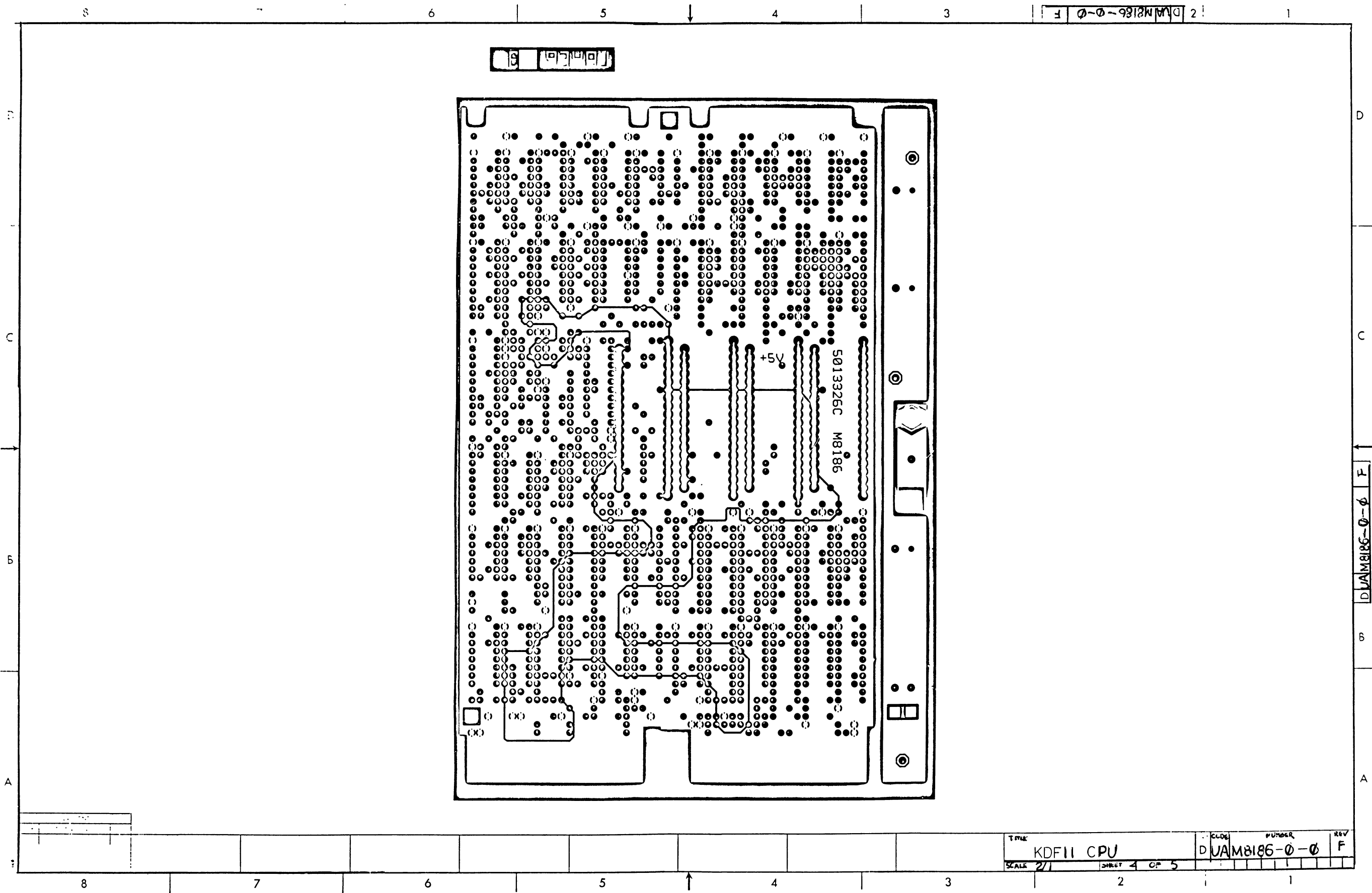
GND

A  
B  
C  
D

A  
B  
C  
D

8  
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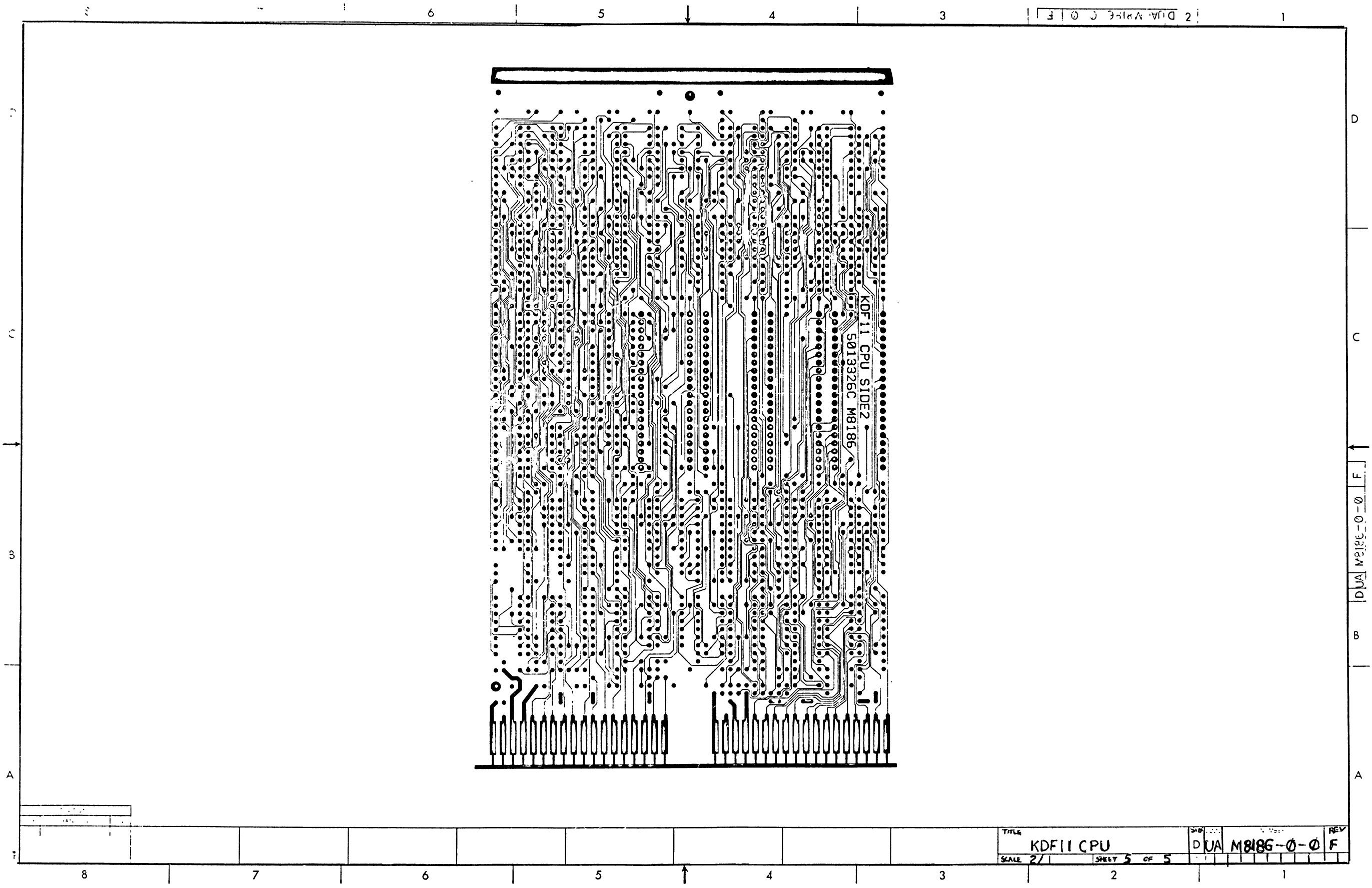


2 1 D JAM8186-0-0 F

D JAM8186-0-0 F

TITLE		CODE	NUMBER	REV
KDF11 CPU		D	JAM8186-0-0	F
SCALE 2/1	SHEET 4 OF 5			





D  
C  
B  
A

DUA M8186-0-0 F

TITLE	KDF11 CPU	SHEET	5	OF	5	REV	F
SCALE	2/1	SHEET	5	OF	5		

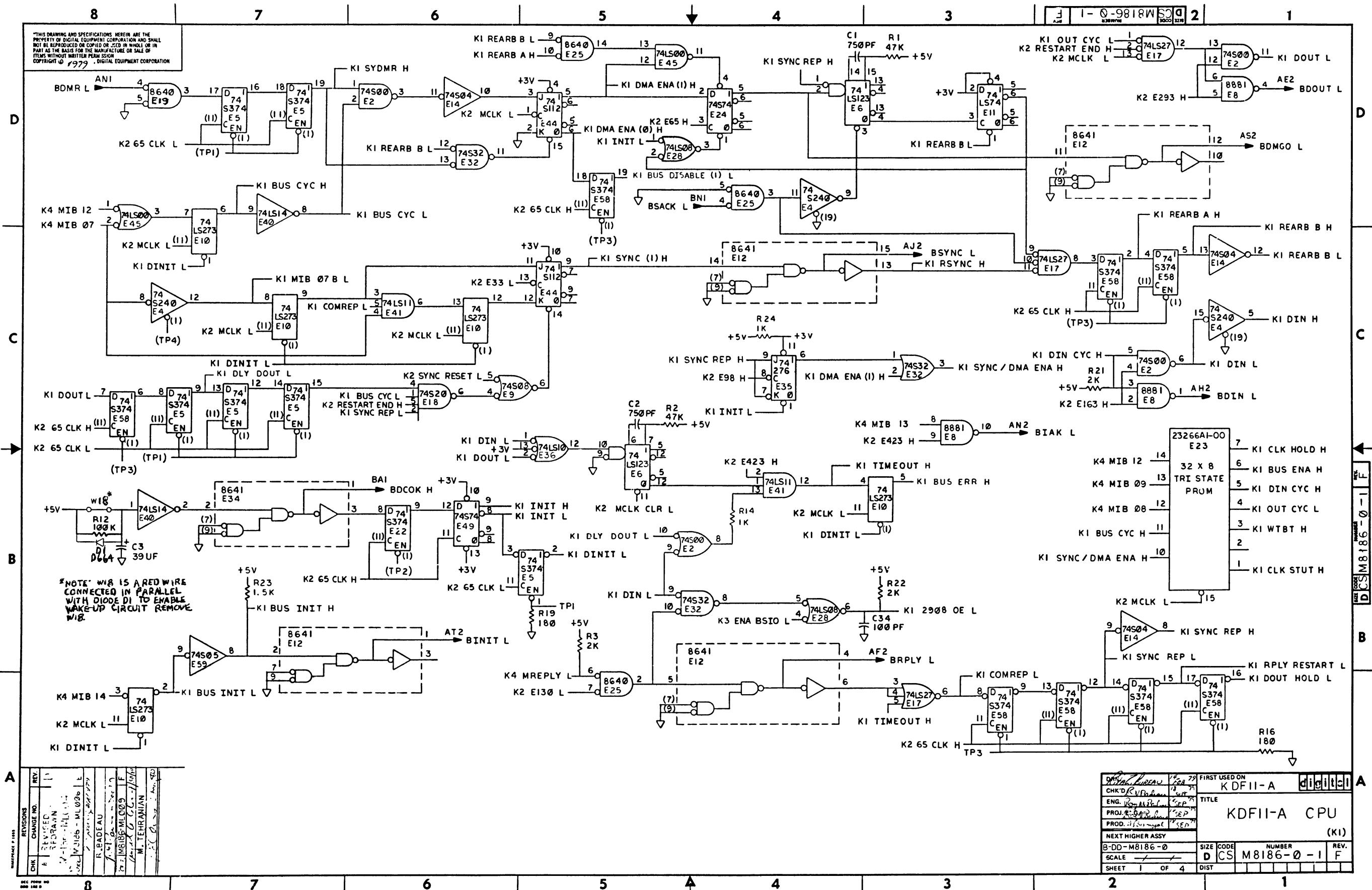
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1	1	D-MU-5013326-0-0	5013326-00	KDF11-CPU	1	
2	2		1912799-00	LS00 NAND-GATE-QUAD 2IN,P	1	E45
3	3		1910532-00	74S00 NAND GATE-QUAD 2IN	1	E2
4	4		1912388-00	74S02 NOR GATE-QUAD 2IN,PO	1	E33
5	5		1910534-00	74S04 INVERTER GATE-HEX 1I	1	E14
6	6		1910535-00	74S05 INVERTER GATE-HEX 1	1	E59
7	7		1912805-00	LS08 AND GATE-QUAD 2IN,PO	1	E28
8	8		1912389-00	74S08 AND GATE-QUAD 2IN,PO	1	E9
9	9		1912807-00	LS10 NAND GATE-TRIPLE 3IN	1	E36
10	10		1912808-00	LS11 AND GATE-TRIPLE 3IN	1	E41
11	11		1913414-00	LS14 INVERTER GATE-HEX SC	1	E40
12	12		1910539-00	74S20 NAND GATE-DUAL 4INPU	1	E18
13	13		1912813-00	LS27 NOR GATE-TRIPLE 3IN	1	E17
14	14		1913340-00	74S32 OR GATE-QUAD 2IN	1	E32
15	15		1910542-00	74S64 A-O-I GATE 4-2-3-2	2	E21,E50
16	16		1912824-00	LS74 FF-D DUAL,EDGE TRIGG	2	E11,E29
17	17		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	2	E24,E49
18	18		1912649-00	LS75 LATCH 4BIT,DISTABLE	1	E27
19	19		1910545-00	74S112 FF-JK DUAL,EDGE TRIG	1	E44
20	20		1912837-00	LS123 ONE SHOT-DUAL,RETRIG	1	E6
21	21		1912942-00	LS138 DECODER-THREE INPUT,	1	E54
22	22		1910550-00	74S174 FF-D HEX	1	E3
23	23		1910957-00	74S175 FF-D QUAD COMMON CLO	1	E1
24	24		1913777-00	LS240 DRIVER,LINE,OCTAL,T	2	E20,E30
25	25		1913462-00	74S240 OCTAL BUFFER,INVERTI	2	E4,E46
26	26		1913493-00	74S241 OCTAL BUFFER,TRI-STA	1	E13
27	27		1915193-00	LS244 DRIVER,LINE,OCTAL,T	1	E53
28	28		1912863-00	LS273 FF-D OCTAL W/CLEAR	1	E10
29	29		1915367-00	74276 FF-JK QUAD	1	E35
30	30		1913671-00	74S374 FF-D OCTAL TRISTATE	4	E5,E22,E38,E58

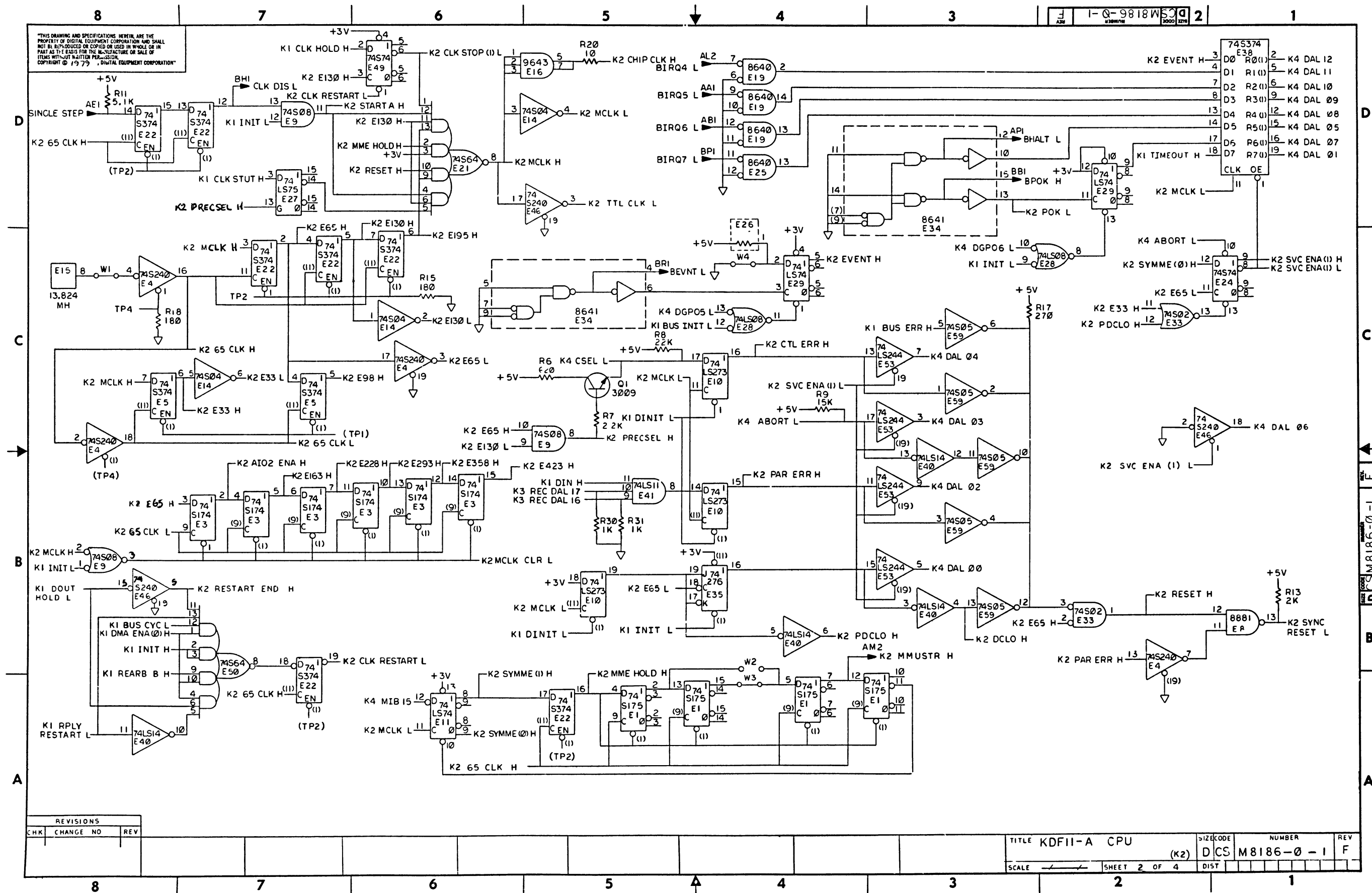
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ENG	ECO NUMBER	REV	SECTION A OF A							
---	INITIAL	ID	SECTION VARIATION INDEX		CHK'D: T. SHETRAWSKI		DATE: 4-SEP-79		TITLE PARTS LIST	
RB	M8186-ML006	IE	[A] 00						KDF11 CPU	
INT	M8186-ML007	IF	[B]							
MT	M8186-ML008	IH	[C]		DES.ENG: ROY BADEAU		DATE: 4-SEP-79			
INT	M8186-ML009	IJ	[D]							
			[E]						DOCUMENT NUMBER	
			[F]		RESP.ENG.: ROY BADEAU		DATE: 4-SEP-79			
			[G]						SIZE CODE NUMBER	
			[H]							
			[I]		MFG.ENG.: AMALENDA SANYAL		DATE: 4-SEP-79		K PL M8186-0-DUP	
			[J]							
			[K]		ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	
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			[M]						EDIT #:	
			[N]						21	

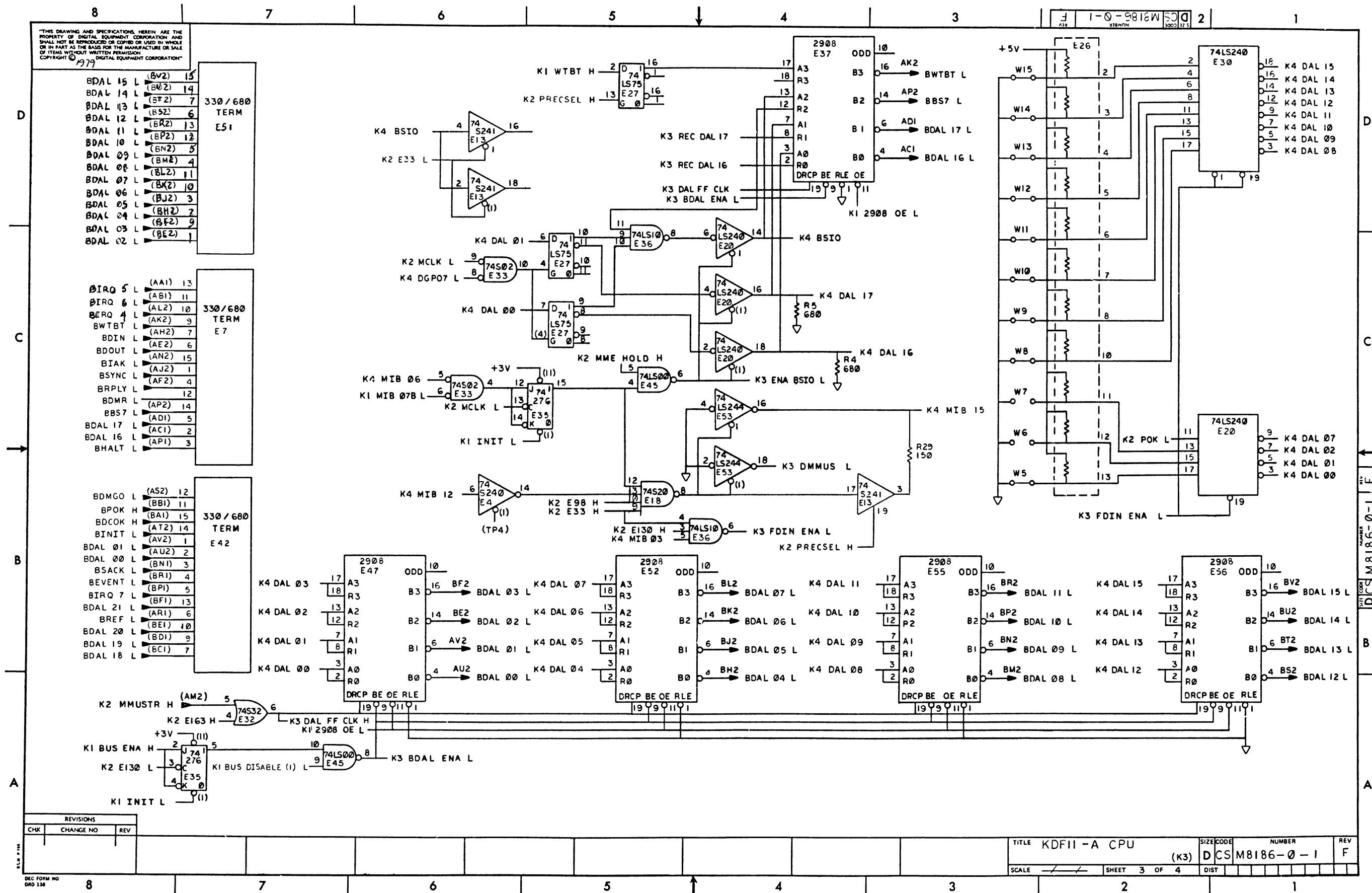
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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
					00		
31	31		1911469-00	DEC 8640 RECEIVER,BUS,QUAD,U	2		E19,E25
32	32		1911579-00	8641 TRANSCEIVER,BUS,QUA	2		E12,E34
33	33		1909705-00	DEC 8881 NAND GATE-QUAD 2IN 0	1		E8
34	34		1916028-01	9643 DRIVER,TTL TO MOS,D	1		E16
35	35		1915305-00	AM 2908 TRANSCEIVER,BUS,LATCH	6		E37,E43,E47,E52,E55,E56
36	36		1812131-00	OSCILLATOR, XTAL 13.824 MHZ	1		E15
37	37		23266A1-00	A1-07	1		E23
38	38		1311003-02	R NETWORK 14-330 14-680 16PIN	3		E7,E42,E51
39	39		1300005-02	R NETWORK 13-6.8K 5.0 % 14PIN	1		E26
40	40		1301317-00	10.0 .25 W 5.0 % CC	1		R20
41	41		1300250-00	150.0 .25 W 5.0 % CC	1		R29
42	42		1301322-00	180.0 .25 W 5.0 % CC	4		R15,R16,R18,R19
43	43		1301972-00	270.0 .25 W 5.0 % CC	1		R17
44	44		1303178-00	620.0 .25 W 5.0 % CC	1		R6
45	45		1301424-00	680.0 .25 W 5.0 % CC	6		R4,R5,R25-R28
46	46		1300365-00	1.0 K .25 W 5.0 % CC	4		R14,R24,R30,R31
47	47		1300391-00	1.50 K .25 W 5.0 % CC	2		R10,R23
48	48		1302388-00	2.0 K .25 W 5.0 % CC	4		R3,R13,R21,R22
49	49		1300417-00	2.20 K .25 W 5.0 % CC	1		R7
50	50		1312930-00	5.10 K .25 W 5.0 % CC	1		R11
51	51		1302177-00	47.0 K .25 W 5.0 % CC	2		R1,R2
52	52		1302466-00	100.0 K .25 W 5.0 % CC	1		R12
53	53		1000016-00	100.0 MMF 100V 5%200PPM DM15S	1		C34
54	54		1013393-00	750.0 MMF 100V 5%200PPMD15S	2		C1,C2
55	55		1001610-00	.01 MFD 50V +80-20% Z5UCER	4		C18,C19,C20,C21
56	56		1012784-00	.047 MFD 50V +80-20% CER	18		C4-C17,C30-C33
57	57		1010274-00	.22 MFD 50V -20+80 Z5U CER	5		C22-C26
58	58		1005306-00	6.8MFD 35V 10% S.TANT	1		C29
59	59		1004812-00	15 MFD 20V 10% S.TANT	2		C27,C28
60	60		1000076-00	39 MFD 10V 10% 150D S.TA	1		C3
61	61		1216116-00	SOCKET 40PIN	4		XE31,XE39,XE48,XE57
62	62		1215899-00	CLIP,JUMPER GOLD/TIN	15		W1,W4-W17
63	63		1215901-00	CONN 36POS STRAIGHT	1		
64	64		1503100-00	DEC3009B NPN 200MW SI 20 25	1		Q1
65	65		2115542-01	*** THIS ITEM IS NOT USED ***	-		
66	66		5700000-01	DAT/CTL HYBRID ASSY W/FP,DCF11-A	1		E31
67	67		9008337-06	HANDLE, FLIP CHIP, MAGENTA	2		
68	68		9006732-00	EYELET, ROLLED FLANGE, .121 OD X	4		
69	69		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	1		W3
70	70		1301808-00	22.0 K .25 W 5.0 % CC	1		R8
71	71		1300496-00	15.0 K .25 W 5.0 % CC	1		R9
72	72		1100114-00	D 664 QS\75PCB PIV= 25V SP	1		D1
73	73		9105740-22	WIRE(WRAP)30AWG UL1423	A/R		W18
74	74		9010213-01	SPACER, DUAL IN-LINE	1		

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							KDF11 CPU				MB186-0-DBP	J

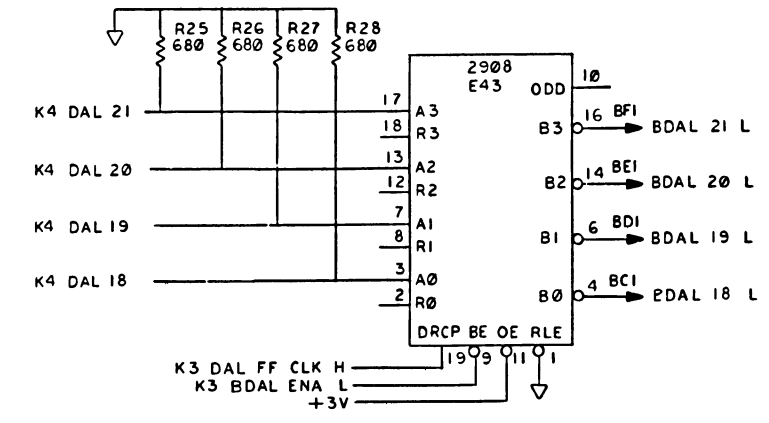
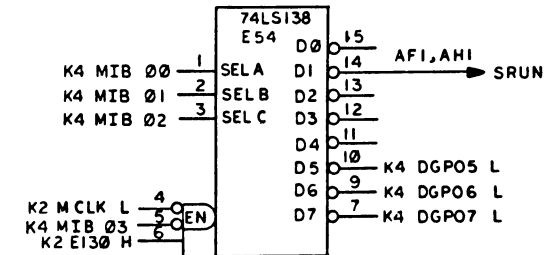
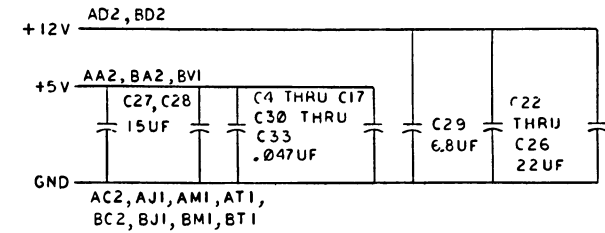
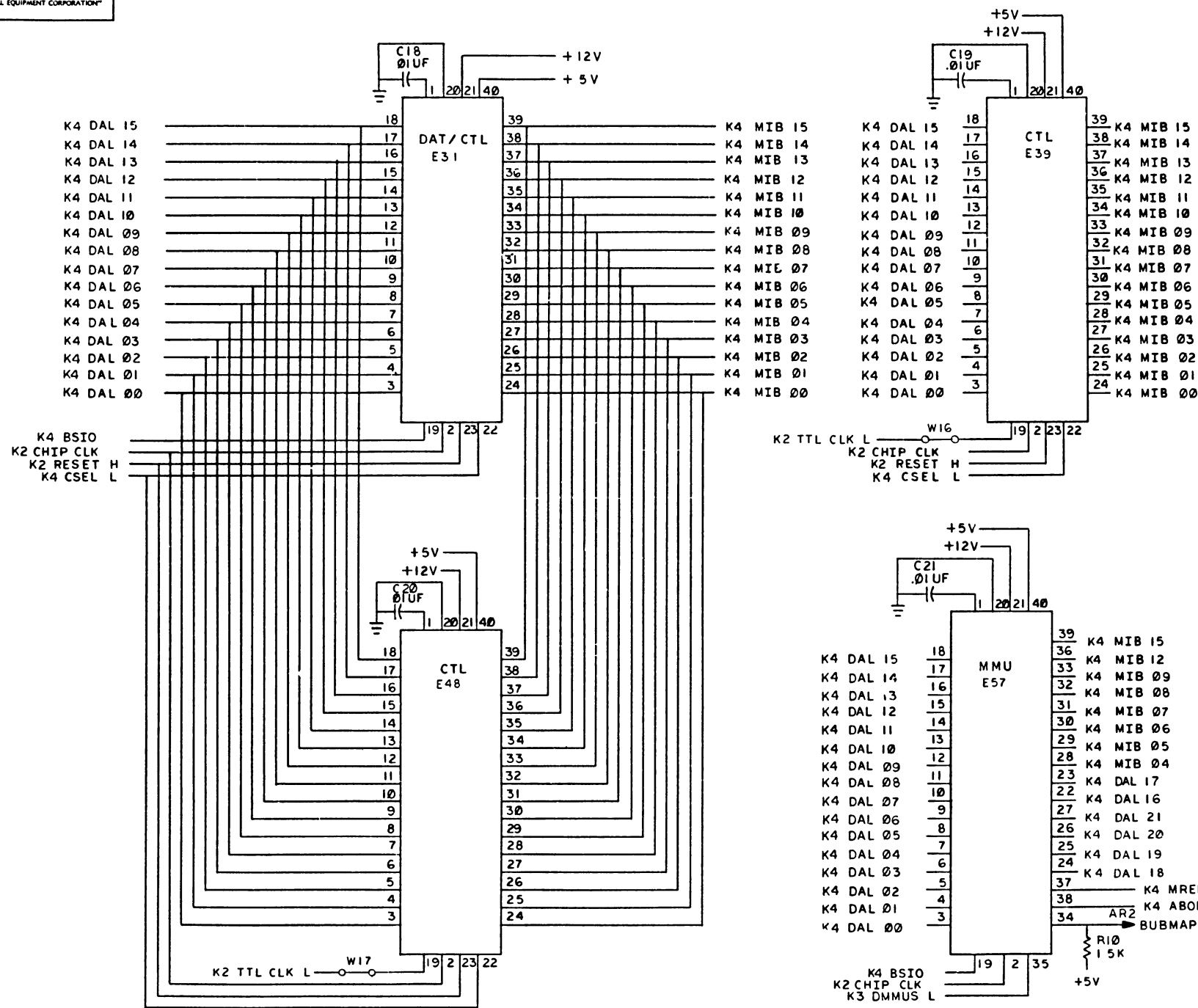






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1-0-9818 WSCD 2



REVISIONS		
CHK	CHANGE NO	REV

TITLE		SIZE	CODE	NUMBER		REV.
KDFII A CPU		(K4)	DCS	M8186-0-1		F
SCALE		SHEET	4 OF 4	DIST		

# FIELD MAINTENANCE PRINT SET

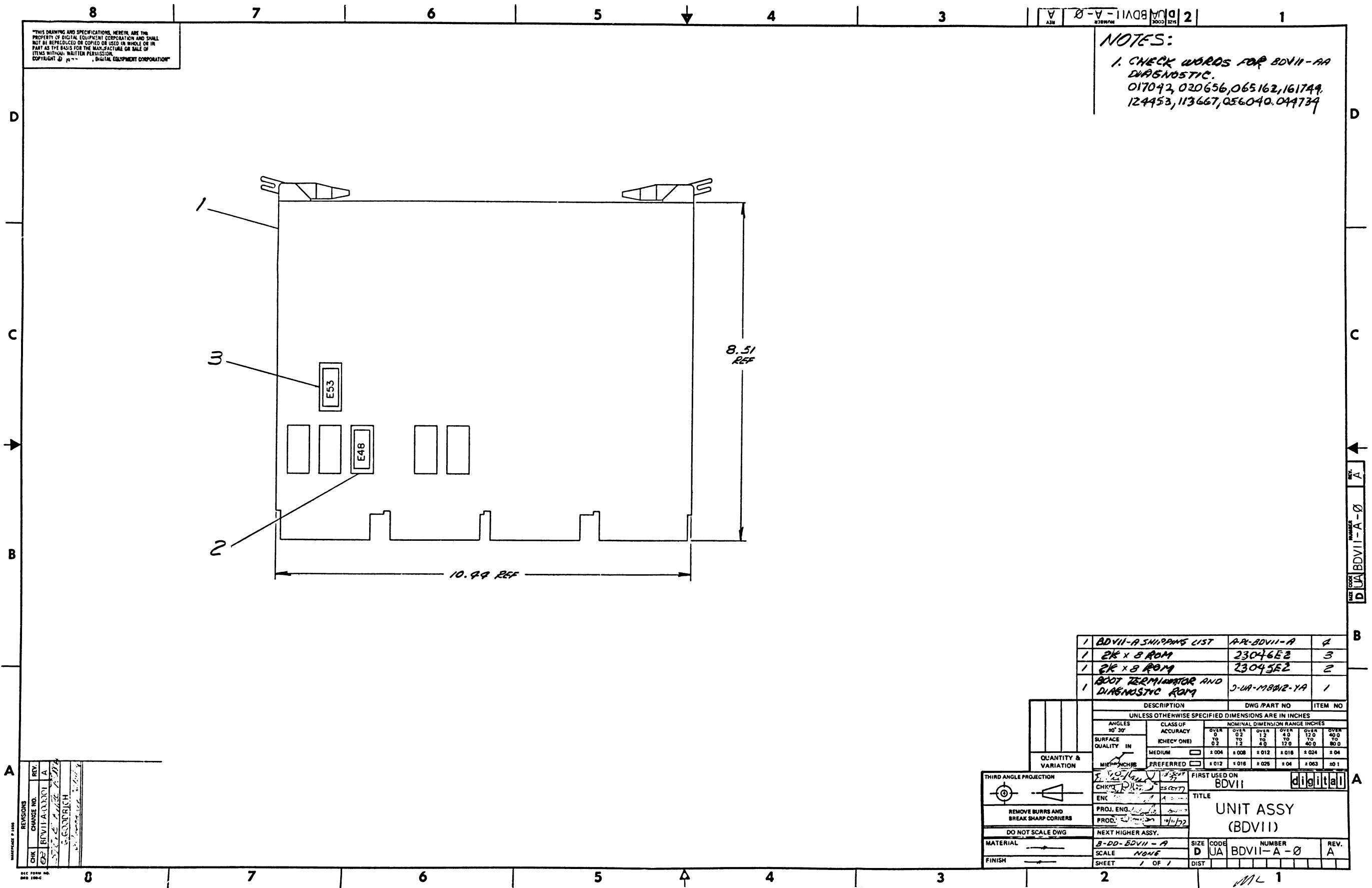
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MPØØ489

1300





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NOTES:  
1. CHECK WORDS FOR BDVII-AA  
DIAGNOSTIC.  
017092, 020656, 065162, 161749,  
124453, 113667, 056040, 044734

1	BDVII-A SHIPPING LIST	A-PL-BDVII-A	2
1	2K x 8 ROM	23046E2	3
1	2K x 8 ROM	23045E2	2
1	BOOT TERMINATOR AND DIAGNOSTIC ROM	J-UA-M8012-YA	1

DESCRIPTION		DWG/PART NO	ITEM NO
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
ANGLES 30° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES	
SURFACE QUALITY	MEDIUM PREFERRED	OVER TO	OVER TO
IN		0.2 1.2	0.2 1.2
MICH INCHES		0.004 0.008	0.012 0.016
		0.012 0.016	0.025 0.04
		0.04 0.063	0.1 0.1

THIRD ANGLE PROJECTION	CHKN BY: [Signature]	FIRST USED ON	BDVII
REMOVE BURRS AND BREAK SHARP CORNERS	PROJ. ENG. [Signature]	TITLE	UNIT ASSY (BDVII)
DO NOT SCALE DWG	PROD. [Signature]	SIZE	D
MATERIAL	B-DD-BDVII-A	CODE	UA
SCALE	NONE	NUMBER	BDVII-A-0
FINISH		REV.	A
SHEET	1 OF 1	DIST	

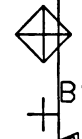
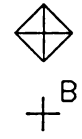
REV.	CHG.	NO.	DATE
1	1	1	1/1/84
2	2	1	1/1/84
3	3	1	1/1/84
4	4	1	1/1/84
5	5	1	1/1/84
6	6	1	1/1/84
7	7	1	1/1/84
8	8	1	1/1/84

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DUA M8012-0-0

COMPONENT SIDE VIEW

SEE NOTE 2



NOTES:  
1. B HOLES .0445 (+.002-.0045) MAYNARD ONLY  
2. W146, B101, & B102 ARE OPTIONAL  
DO NOT INSTALL  
3. INSTALL SOCKETS FOR F36,  
E48, E40, B52, E53, & E57 ONLY

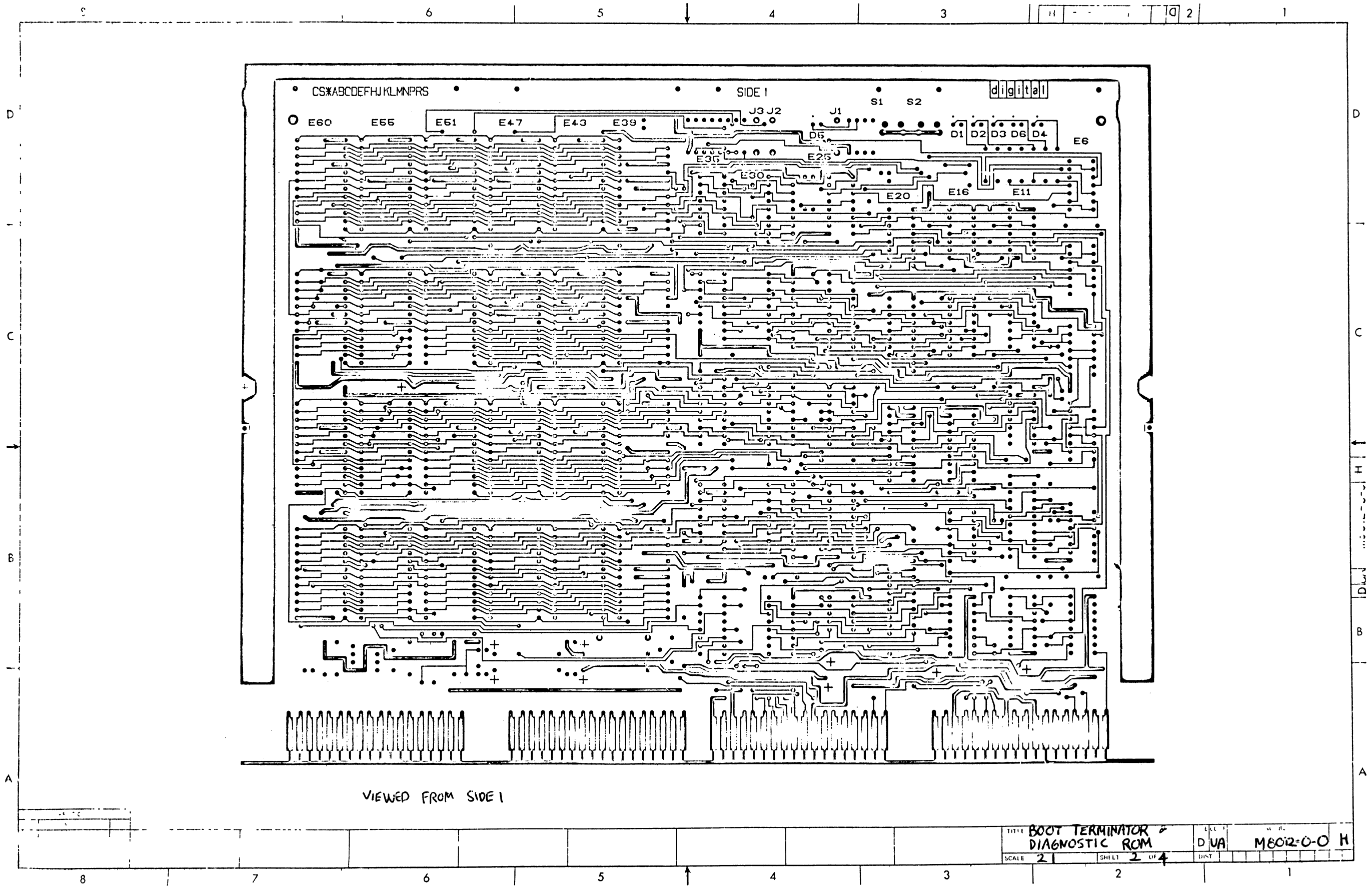
CHK	CHANGE	NO	REV
✓	✓	1	1
✓	✓	2	1
✓	✓	3	1
✓	✓	4	1
✓	✓	5	1
✓	✓	6	1
✓	✓	7	1
✓	✓	8	1
✓	✓	9	1
✓	✓	10	1
✓	✓	11	1
✓	✓	12	1
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ETCH REV.	C
P.C. DESIGN DATA BASE REV.	C

SIGNATURES	DATE
DRN. <i>[Signature]</i>	<i>[Date]</i>
CHK'D. <i>[Signature]</i>	<i>[Date]</i>
ENG. <i>[Signature]</i>	<i>[Date]</i>
PROJ. ENG. <i>[Signature]</i>	<i>[Date]</i>
PROD. <i>[Signature]</i>	<i>[Date]</i>
SCALE 2/1	
SHT. 1 OF 4	
NEXT HIGHER ASSY. B-DD-M8012-0	

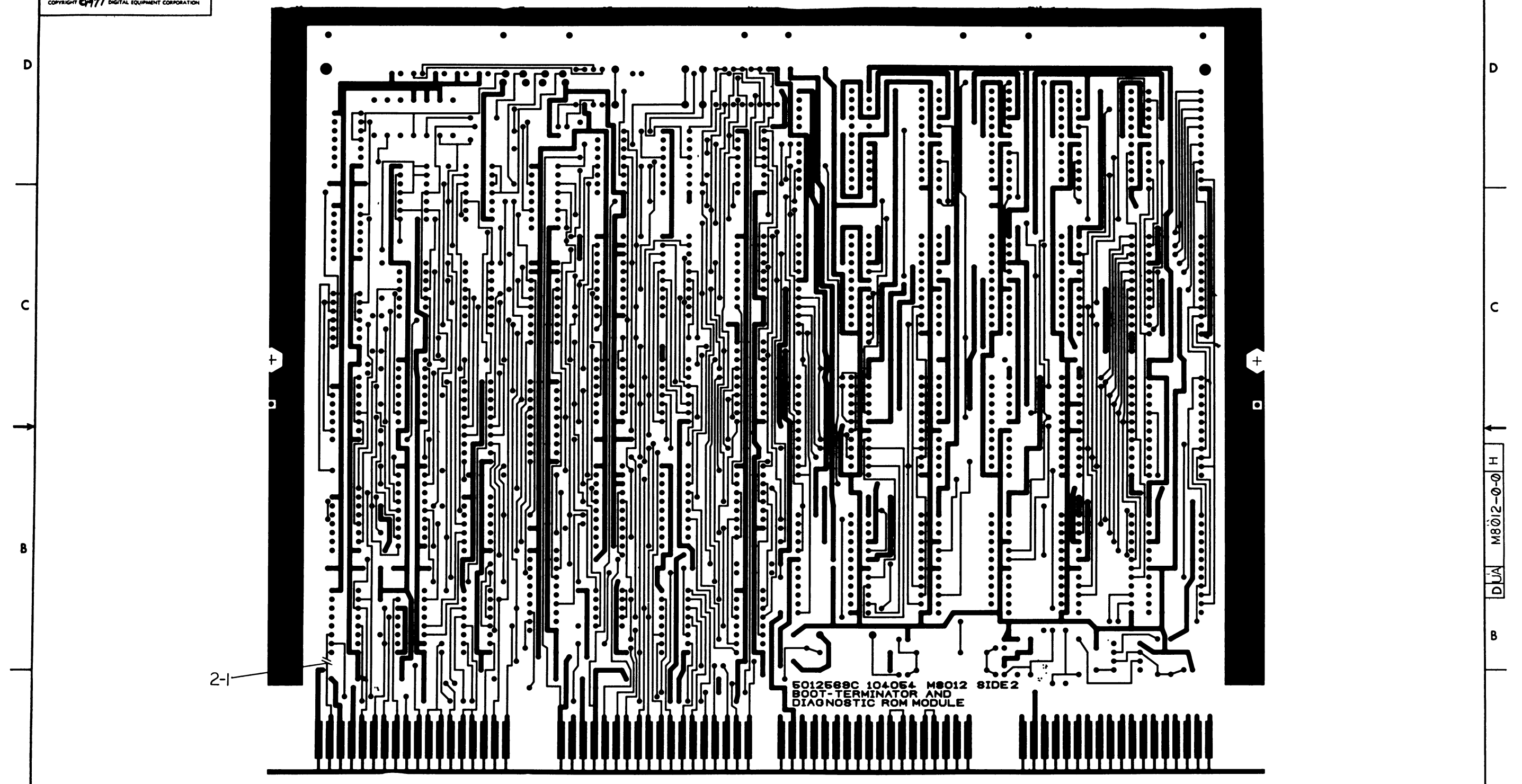
TITLE	digital
BOOT TERMINATOR AND DIAGNOSTIC ROM	
SIZE CODE	UA
NUMBER	M8012-0-0
REV	H

mc 1 MS#104054C



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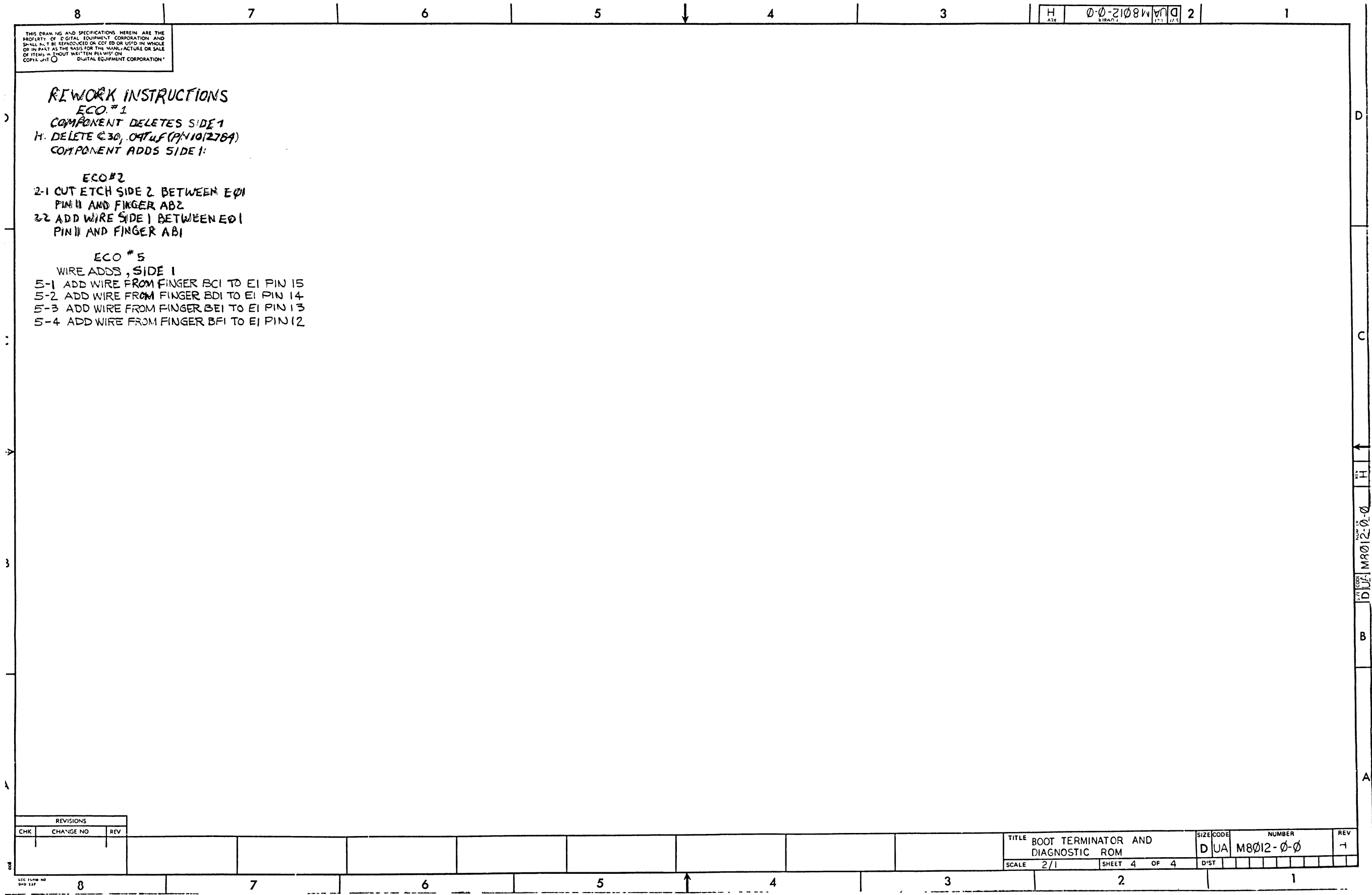
H 0-0-2108W M 2



VIEWED FROM SIDE 2

REVISIONS		
CHK	CHANGE NO	REV

TITLE	BOOT TERMINATOR & DIAGNOSTIC ROM	SIZE CODE	D UA	NUMBER	M8012-0-0	REV	H
SCALE	2:1	SHEET	3 OF 4	DIST			



D  
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M8012-0-0

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LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER	VARIATION	REFERENCE DESIGNATOR
					00	YA		
1	1	D-MD-5012569-0-0	5012569-00	M8012	1	1		
2	2		1000024-00	470.0 MMF 100V 5%200PPM DM15S	1	1		C12
3	3		1001610-01	.01 MFD 100V -20+80 Z5U DISC	2	2		C6,C13
4	4		1004812-00	15 MFD 20V 10% S.TANT	4	4		C7,C8,C10,C11
5	5		1005306-00	6.8MFD 35V 10% S.TANT	4	4		C1-C4
6	6		1011740-00	5600.0 MMF 50V 10% CW15C CER.	1	1		C5
7	7		1012784-00	.047 MFD 50V -20+80 CER	19	19		C9,C15-C29,C31-C33
8	8		1103441-00	1N 756A VZ= 8.2 5% .40W P	1	1		D11
9	9		1104860-00	1N 746A VZ= 3.3 5%	1	1		D10
10	10		1105275-00	D 672 TR= 15NS PIV= 60V SI	3	3		D8,D9,D12
11	11		1109991-00	1N 754A VZ= 6.8 5% .40W	2	2		D7,D13
12	12		1110864-00	LED 2MCD@10MA	4	4		D1-D4
13	13		1114384-00	LED 105MW 35MA GREEN	1	1		D6
14	14		1210209-00	SW,TGG,SPDT,.01A@6V,ON/ON,SUBMIN	2	2		S1,S2
15	15		1215006-06	SOCKET 24PIN IC LOW PROFILE	6	-		XE36,XE40,XE48,XE52,XE53,XE57
			CONT		-	24		XE37-XE39,XE41-XE47,XE49-XE51,
							CONT	XE54,XE55,XE58-XE60,XE36,XE40,
							CONT	XE48,XE52,XE53,XE57
16	16		1211164-01	SW,DIP 1P 1A 5POS	1	1		E21
17	17		1211164-04	SW,DIP 1P 1A 8POS	1	1		E15
18	18		1213113-01	HANDLE,MODULE,	1	1		
19	19		1213974-06	JACK 2LINE RED	1	1		J2
20	20		1213974-07	JACK 2LINE BLACK	1	1		J1
21	21		1213974-03	JACK 2LINE PURPLE	1	1		J3
22	22		1300271-00	220 1/4W 5% CC	6	6		R5,R7,R25-R28
23	23		1300365-00	1 K 1/4W 5% CC	14	14		R8,R11-R15,R17-R24
24	24		1300417-00	2.2 K 1/4W 5% CC	1	1		R4
25	25		1301322-00	180 1/4W 5% CC	1	1		R10
26	26		1301890-00	560 1/4W 5% CC	2	2		R1,R2
27	27		1311003-01	R NETWORK 14-180 14-3e0	3	3		E1,E12,E26

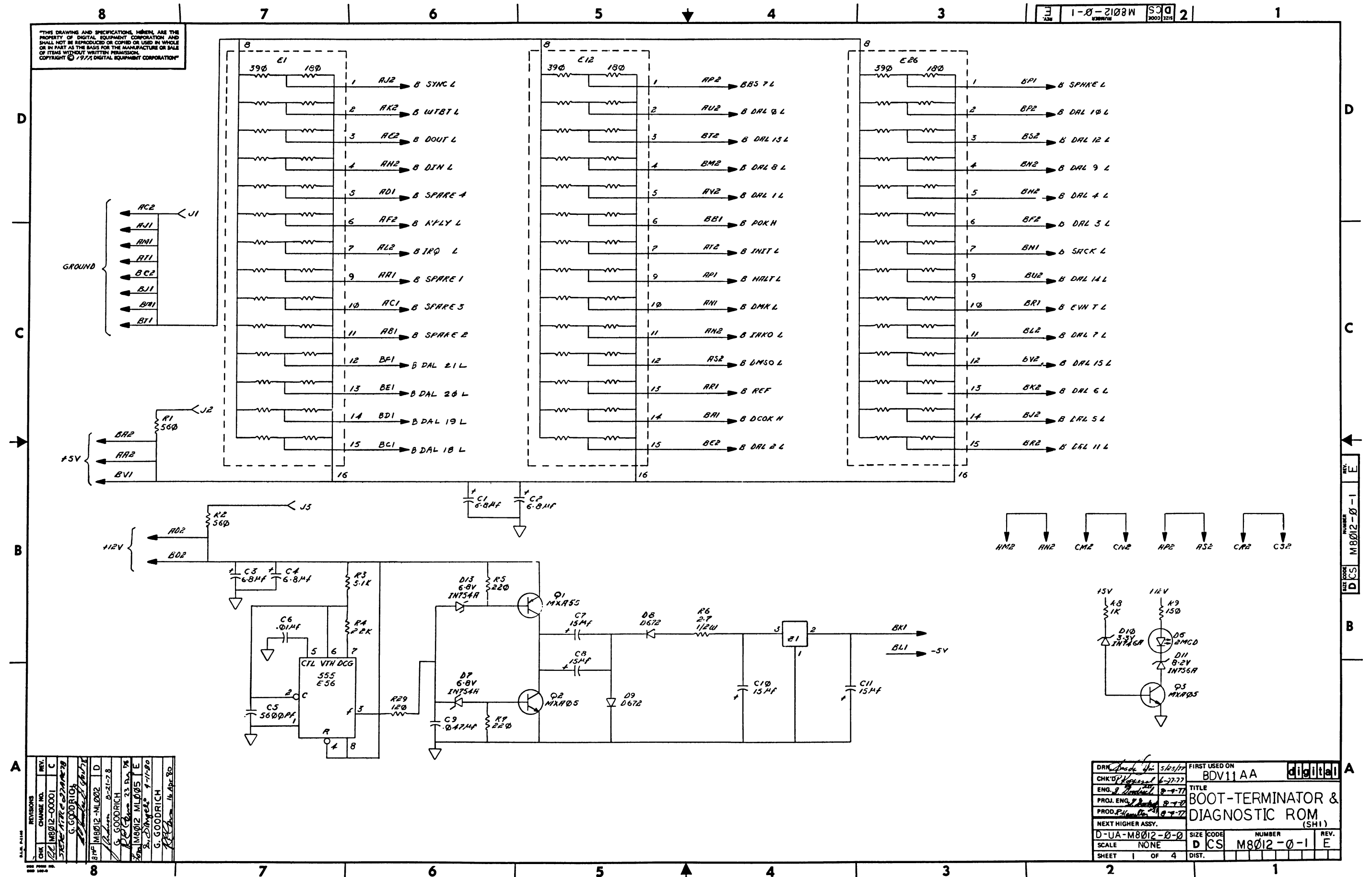
REVISION HISTORY			BASIC PART NO: M8012			DRN: A COLON			DATE: 25-APR-78			D I G I T A L		
ENG	ECO NUMBER	REV	SECTION A OF A											
			SECTION VARIATION INDEX			CHK'D: R KOPPENAL			DATE: 25-APR-78			TITLE PARTS LIST		
R,R	00001	C												
BHF	ML002	D	[A] 00,YA									BOOT-TERM &DIAGNOSTIC ROM		
G,G	M8012-ML003	E	[B]											
GG	M8012-ML004	F	[C]			DES.ENG: G GOODRICH			DATE: 25-APR-78					
			[D]											
			[E]									DOCUMENT NUMBER		
			[F]			RESP.ENG.: G GOODRICH			DATE: 25-APR-78					
			[H]									SIZE CODE NUMBER REV		
			[J]											
			[K]			MFG.ENG.: R HAMILTON			DATE: 25-APR-78			K PL M8012-0-DBP F		
			[L]											
			[M]			ASSEMBLY NUMBER:			TOP DOCUMENT NUMBER:			FILE NAME:		
			[N]			D-UA-M8012-0-0						Z0813F.PLS		
												EDIT #		
												13		

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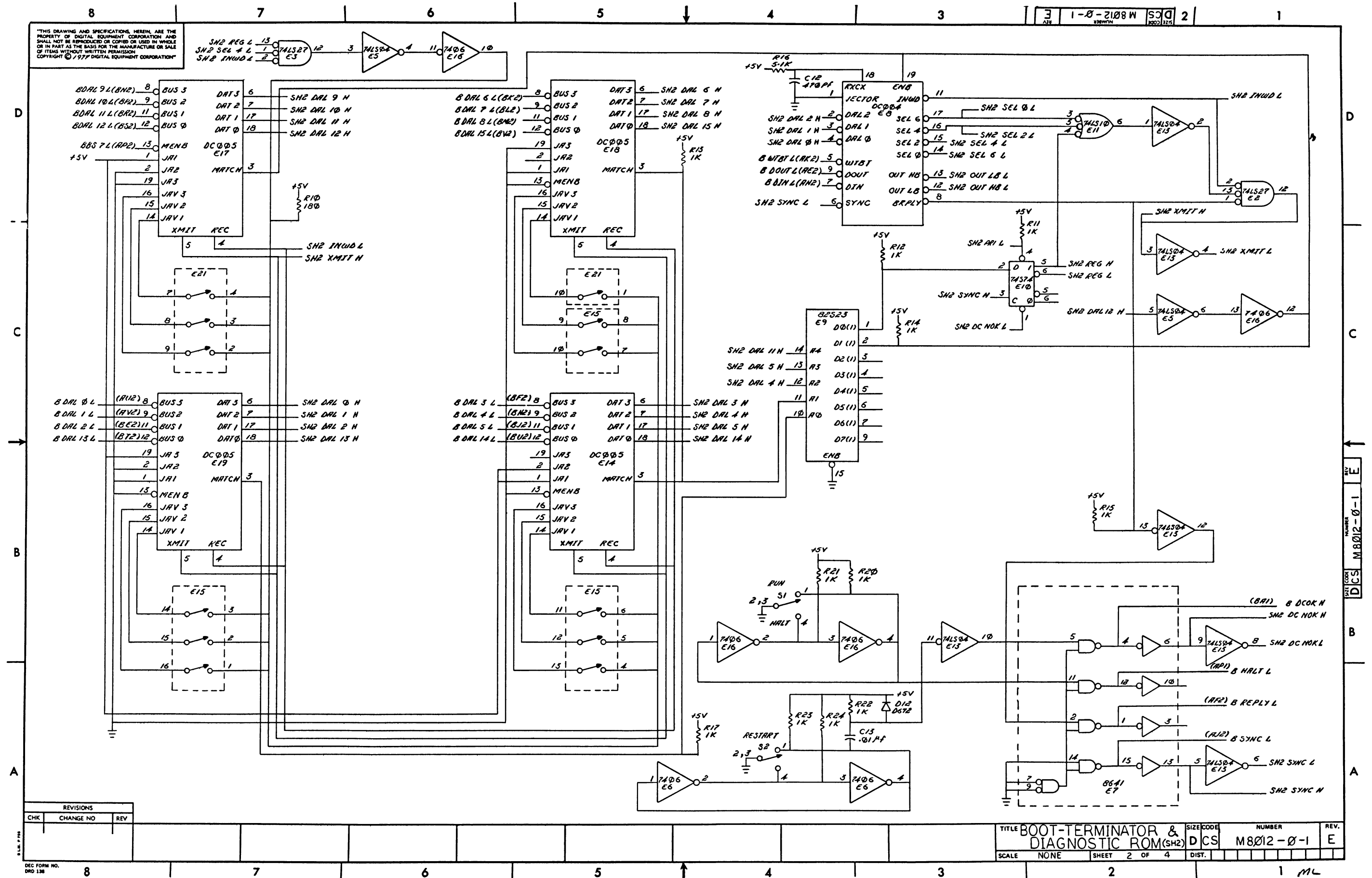
LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION		REFERENCE DESIGNATOR
					00	YA	
28	28		1309444-00	2.7 1/2W 10% CC	1	1	R6
29	29		1312930-00	5.1 K 1/4W 5% CC	2	2	R3,R16
30	30		1300247-00	120 1/4W 5% CC	1	1	R29
31	31		1300250-00	150 1/4W 5% CC	1	1	R9
32	32		1510705-00	XA 05 NPN 500MW SI 60 50 P	3	3	Q2-Q4
33	33		1510706-00	XA 55 PNP 500MW SI 60 50 P	1	1	Q1
34	34		1910741-00	7406 INVERTER GATE-HEX 1I	2	2	E6,E16
35	35		1911579-00	8641 TRANSCEIVER,DUS,QUA	1	1	E7
36	36		1911944-00	555CN TIMER,FUNCT.BLOCK	1	1	E56
37	37		1912541-00	79M05 VOLT.REG.FIX -	1	1	Z1
38	38		1912647-00	LS257 MUX 1 OF 2 (QUAD)	6	6	E20,E23,E28,E31,E32,E34
39	39		1912729-00	DC 004 PROTOCOL,REG. SELECT	1	1	E8
40	40		1912803-00	LS04 INVERTER GATE-HEX 1I	2	2	E5,E13
41	41		1912807-00	LS10 NAND GATE-TRIPLE 3IN	1	1	E11
42	42		1912813-00	LS27 NOR GATE-TRIPLE 3IN	3	3	E2-E4
43	43		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	1	1	E10
44	44		1912842-00	LS139 DECODER-THREE INPUT,	1	1	E35
45	45		1912843-00	LS139 DECODER, 2 OF 4(DUAL	1	1	E30
46	46		1912853-00	0LS175 FF-D QUAD	1	1	E25
47	47		1912863-00	LS273 FF-D OCTAL W/CLEAR	3	3	E27,E29,E33
48	48		1912868-00	LS299 SHIFT REG. 8-DIT UNI	2	2	E22,E24
49	49		1913040-00	DC 005 TRANSCEIVER 4BIT	4	4	E14,E17-E19
50	50		23208A1-00	A1-03,A1-04,A1-05	1	1	E9
51	51		9009185-00@	JUMPER, WIRE, INSULATED, BLACK D	6	6	W2,W3,W5,W7,W9,W12
52	52		9000A24-01	EYELET, ROLLED FLANGE, .121 OD X	8	8	
53	53	BLANK			0	0	
54	54		9107256-11	T*DRING,THIN WALL,.027ID UL	A/R	A/R	
55	55		9105740-55	WIRE(WRAP)30AWG UL1423	A/R	A/R	

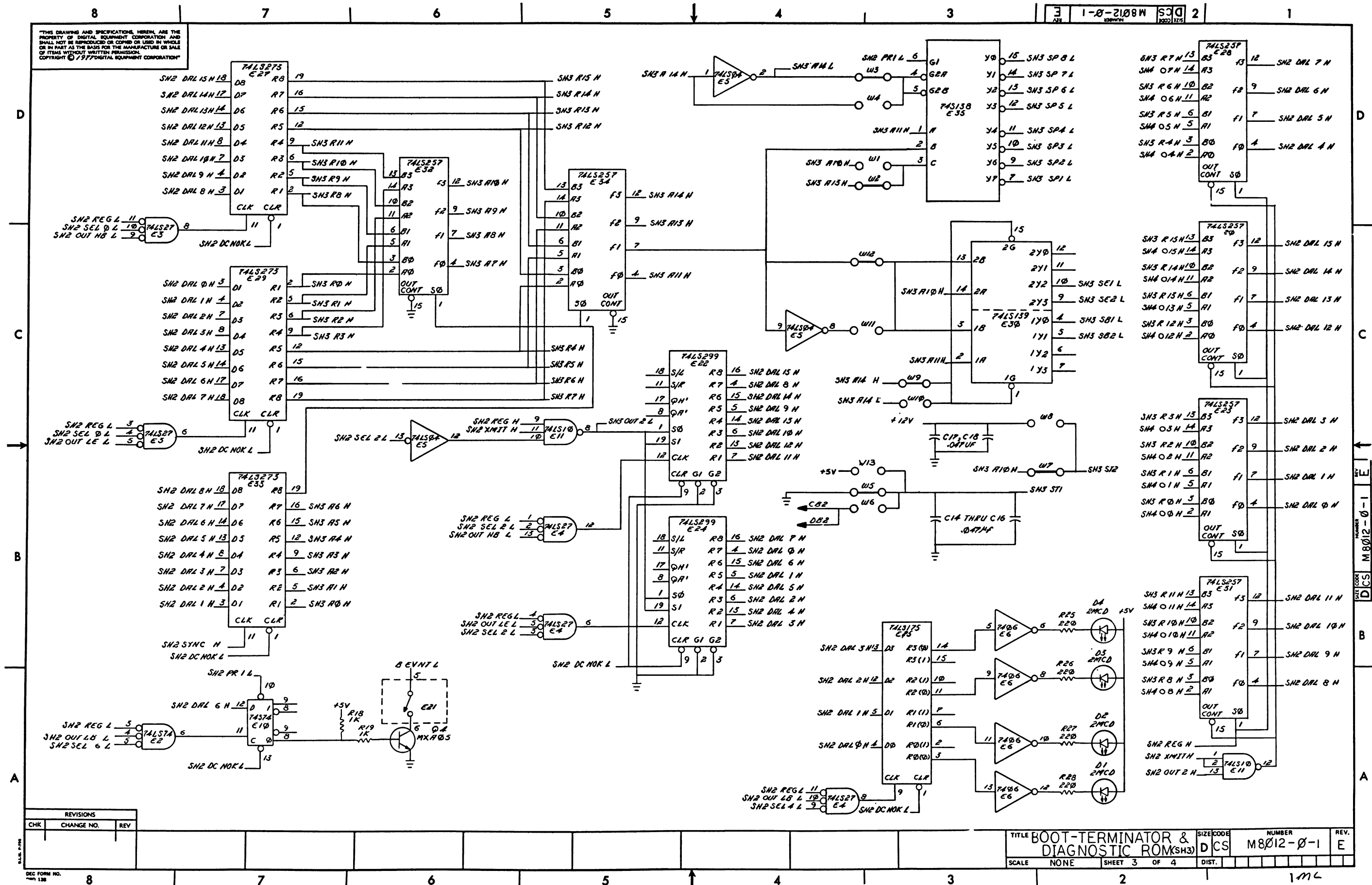
0 NOTE: IF 1215006-06 IS NOT AVAILABLE USE 1210693

! D ! I ! G ! I ! T ! A ! L !	! TITLE	! SECTION A OF A	! SIZE ! CODE !	! DOCUMENT NUMBER	! REV !
! ! ! ! ! ! ! !	! BOOT-TERM 2DIAGNOSTIC ROM	! ! ! ! ! ! ! !	! K ! PL !	! N8012-0-DBP	! F !
! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !	! ! ! ! ! ! ! !











[illegible]

ENGINEERING SPECIFICATION		<div style="border: 1px solid black; width: 40px; height: 15px; margin: 0 auto;"></div>	CONTINUATION SHEET		
TITLE M8012 -- TERM, BOOT AND DIAGNOSTIC BOARD					
<p>TABLE OF CONTENTS</p> <div style="margin-left: 40px;"> <p>1.0 GENERAL DESCRIPTION</p> <p style="margin-left: 20px;">1.1 GENERAL</p> <p style="margin-left: 20px;">1.2 POWER REQUIREMENTS</p>   <p>2.0 ROM</p> <p style="margin-left: 20px;">2.1 ROM</p> <p style="margin-left: 20px;">2.2 ROM PAGES</p>   <p>3.0 BEVENT CLAMP (RTC DISABLE)</p> <p style="margin-left: 20px;">3.1 GENERAL</p> <p style="margin-left: 20px;">3.2 ADDRESS</p>   <p>4.0 MAINTENANCE REGISTERS</p> <p style="margin-left: 20px;">4.1 READ WRITE REGISTER</p> <p style="margin-left: 20px;">4.2 DISPLAY REGISTER</p> <p style="margin-left: 20px;">4.3 SWITCH REGISTER</p>   <p>5.0 TERMINATION/PINOUT</p>   <p>6.0 POWER OK LED, RESTART AND HALT SWITCHES</p>   <p>7.0 ROM CODE</p>   <p>8.0 TEST JACKS</p>   <p>9.0 ROM ADDRESS MAP</p> <p style="margin-left: 20px;">9.1 MASKED BOOT/DIAGNOSTIC ROM</p> <p style="margin-left: 20px;">9.2 EPROM</p> <p style="margin-left: 20px;">9.3 PROGRAM ROM</p> <p style="margin-left: 20px;">9.4 ADDRESS JUMPERS</p>   <p>10.0 PROGRAM ROM/PROM JUMPERS</p> </div> <div style="margin-left: 40px;"> <p>-----</p> <p>NOTE: THE LSI-11 BUS SPECIFICATION (DEC STD-160) IS REFERENCED BY AND SHALL BE CONSIDERED PART OF THIS SPECIFICATION</p> <p>-----</p> </div>					
		<div style="border: 1px solid black; display: inline-block; padding: 2px;">SIZE</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">A</div>	<div style="border: 1px solid black; display: inline-block; padding: 2px;">CODE</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">SP</div>	<div style="border: 1px solid black; display: inline-block; padding: 2px;">NUMBER</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">M8012-0-7</div>	<div style="border: 1px solid black; display: inline-block; padding: 2px;">REV</div> <div style="border: 1px solid black; display: inline-block; padding: 2px;">A</div>
DEC FORM NO EN-01022-16-N370-(381) DRA 108		SHEET <u>2</u> OF <u>10</u>			

ENGINEERING SPECIFICATION		CONTINUATION SHEET													
TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD															
1.0	GENERAL DESCRIPTION														
1.1	DESCRIPTION														
	<p>THE M8012 TERMINATOR, BOOTSTRAP AND DIAGNOSTIC BOARD IS A QUAD HEIGHT MODULE WHICH INTERFACES WITH THE LSI-11 BUS. IT PROVIDES THE FOLLOWING FEATURES:</p>														
	<p>A) ROM SPACE FOR BOOTSTRAP/DIAGNOSTIC AND OTHER PROGRAMS.</p> <p>B) A 12 BIT READABLE SWITCH REGISTER</p> <p>C) A 16 BIT READ WRITE REGISTER</p> <p>D) A PROGRAMABLE RTC ENABLE</p> <p>E) A POWER OK LED</p> <p>F) A 4 LED DISPLAY REGISTER</p> <p>G) RESTART AND HALT SWITCHES</p> <p>H) 120 OHM LSI-11 BUS TERMINATION</p>														
1.2	POWER REQUIREMENTS														
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;">TYPICAL</th> <th style="width: 20%; text-align: center;">MAX</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>+5 VOLTS</td> <td style="text-align: center;">1.25</td> <td style="text-align: center;">1.6</td> <td>AMPS</td> </tr> <tr> <td>+12 VOLTS</td> <td style="text-align: center;">0.05</td> <td style="text-align: center;">0.07</td> <td>AMPS</td> </tr> </tbody> </table> <p>NOTE: POWER MUST BE ADDED FOR ANY ROMS USED.</p>				TYPICAL	MAX		+5 VOLTS	1.25	1.6	AMPS	+12 VOLTS	0.05	0.07	AMPS
	TYPICAL	MAX													
+5 VOLTS	1.25	1.6	AMPS												
+12 VOLTS	0.05	0.07	AMPS												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 2px;">SIZE <b>A</b></td> <td style="width: 25%; padding: 2px;">CODE <b>SP</b></td> <td style="width: 40%; padding: 2px;">NUMBER M8012-0-7</td> <td style="width: 10%; padding: 2px;">REV <b>A</b></td> </tr> </table>		SIZE <b>A</b>	CODE <b>SP</b>	NUMBER M8012-0-7	REV <b>A</b>								
SIZE <b>A</b>	CODE <b>SP</b>	NUMBER M8012-0-7	REV <b>A</b>												
DEC FORM NO EN-01022-16-N370-(301) DRA 108		SHEET <u>3</u> OF <u>10</u>													

ENGINEERING SPECIFICATION		<div style="border: 1px solid black; width: 50px; height: 20px; display: inline-block;"></div>		CONTINUATION SHEET									
<b>TITLE</b> M8012 -- TERM BOOT AND DIAGNOSTIC BOARD													
<div style="margin-bottom: 20px;"> <p>2.0            ROM</p> <p>2.1            ROM</p> <p>THE M8012 PROVIDES 2K WORDS OF MASKED ROM SOCKETS FOR BOOTSTRAPS AND DIAGNOSTICS WITH PADS FOR AN ADDITIONAL 2K WORDS FOR FUTURE USE.</p> <p>IT ALSO PROVIDES SOCKETS FOR 4 2708 EPROMS (2K WORDS) AND PADS FOR 16 8316E/2716 (16K WORDS) ROM/EPROM. THESE PADS MAY BE USED FOR 2708 EPROMS (8K WORDS) BY CHANGING JUMPERS AND SUPPLYING -5 VOLT POWER THRU PINS CB2 AND DB2.</p> <p>THE M8012-YA PROVIDES SOCKETS FOR THE ADDITIONAL 2K OF BOOT/DIAGNOSTIC ROMS AND FOR THE PROGRAM ROM/EPROM.</p> </div> <div> <p>2.2            ROM PAGES</p> <p>ALL ROM IS ACCESSED IN A PAGED FORMAT OF 2 128 WORD PAGES AT THE FOLLOWING BUS ADDRESSES</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">173000 TO 173377</td> <td style="width: 50%; border: none;">LOW PAGE</td> </tr> <tr> <td style="border: none;">173400 TO 173777</td> <td style="border: none;">HIGH PAGE</td> </tr> </table> </div>						173000 TO 173377	LOW PAGE	173400 TO 173777	HIGH PAGE				
173000 TO 173377	LOW PAGE												
173400 TO 173777	HIGH PAGE												
DEC FORM NO    EN-01022-16-N370-(381)		DRA 108		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 2px;">SIZE</td> <td style="width: 15%; padding: 2px;">CODE</td> <td style="width: 40%; padding: 2px;">NUMBER</td> <td style="width: 30%; padding: 2px;">REV</td> </tr> <tr> <td style="text-align: center; padding: 2px;">A</td> <td style="text-align: center; padding: 2px;">SP</td> <td style="text-align: center; padding: 2px;">M8012-0-7</td> <td style="text-align: center; padding: 2px;">A</td> </tr> </table>		SIZE	CODE	NUMBER	REV	A	SP	M8012-0-7	A
SIZE	CODE	NUMBER	REV										
A	SP	M8012-0-7	A										
SHEET 4				OF 10									

ENGINEERING SPECIFICATION		CONTINUATION SHEET																																			
TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD																																					
<p>TO CONTROL MAPPING OF THESE PAGES INTO PHYSICAL ROM ADDRESSES A PAGE CONTROL REGISTER IS USED AT BUS ADDRESS 177520. THIS REGISTER IS WORD OR BYTE ADDRESSABLE AND MAY BY READ OR WRITTEN AND IS CLEARED UPON THE NEGATION OF BDCOK.</p> <p>THE PHYSICAL ROM ADDRESS IS GENERATED BY LATCHING DAL1-DAL7 AT SYNC AS A0-A6 AND USING THE LOW OR HIGH BYTE OF THE PAGE REGISTER (DEPENDING IF BUS ADDRESS IS IN LOW OR HIGH PAGE) AS A7-A14. TWO ROMS ARE ACCESSED AT A TIME, ONE AS LOW BYTE AND ONE AS HIGH BYTE.</p> <p>NOTE THAT ANY PAGE IN PHYSICAL ROM MAY BE ACCESSED THROUGH THE LOW OR HIGH BUS PAGE.</p> <p>IF THE BUS ADDRESS IS BETWEEN:</p> <table><tr><td>173000 AND 173377</td><td>173400 AND 173777</td></tr><tr><td>ROM ADR=SOURCE</td><td>ROM ADR=SOURCE</td></tr><tr><td>A0= DAL1 (LATCHED)</td><td>A0= DAL1 (LATCHED)</td></tr><tr><td>A1= DAL2</td><td>A1= DAL2</td></tr><tr><td>A2= DAL3</td><td>A2= DAL3</td></tr><tr><td>A3= DAL4</td><td>A3= DAL4</td></tr><tr><td>A4= DAL5</td><td>A4= DAL5</td></tr><tr><td>A5= DAL6</td><td>A5= DAL6</td></tr><tr><td>A6= DAL7</td><td>A6= DAL7</td></tr><tr><td>A7= BIT0 (PAGE REG)</td><td>A7= BIT8 (PAGE REG)</td></tr><tr><td>A8= BIT1</td><td>A8= BIT9</td></tr><tr><td>A9= BIT2</td><td>A9= BIT10</td></tr><tr><td>A10= BIT3</td><td>A10= BIT11</td></tr><tr><td>A11= BIT4</td><td>A11= BIT12</td></tr><tr><td>A12= BIT5</td><td>A12= BIT13</td></tr><tr><td>A13= BIT6</td><td>A13= BIT14</td></tr><tr><td>A14= BIT7</td><td>A14= BIT15</td></tr></table> <p>WHERE PHYSICAL ROM ADDRESS BIT= SOURCE</p>				173000 AND 173377	173400 AND 173777	ROM ADR=SOURCE	ROM ADR=SOURCE	A0= DAL1 (LATCHED)	A0= DAL1 (LATCHED)	A1= DAL2	A1= DAL2	A2= DAL3	A2= DAL3	A3= DAL4	A3= DAL4	A4= DAL5	A4= DAL5	A5= DAL6	A5= DAL6	A6= DAL7	A6= DAL7	A7= BIT0 (PAGE REG)	A7= BIT8 (PAGE REG)	A8= BIT1	A8= BIT9	A9= BIT2	A9= BIT10	A10= BIT3	A10= BIT11	A11= BIT4	A11= BIT12	A12= BIT5	A12= BIT13	A13= BIT6	A13= BIT14	A14= BIT7	A14= BIT15
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SIZE A	CODE SP	NUMBER M8012-0-7	REV A																																		

ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD			
<p>3.0 BEVENT CLAMP (REAL TIME CLOCK DISABLE)</p> <p>3.1 GENERAL</p> <p>A SINGLE BIT WRITE ONLY REGISTER CLAMPS BEVENTL LOW WHEN CLEARED. THIS ALLOWS PROGRAM CONTROL OF THE LSI-11 LINE TIME CLOCK FUNCTION. REGISTER IS CLEARED UPON NEGATION OF BDCOK. THE M8012 MODULE MUST BE LOCATED IN THE BACKPLANE PROVIDING BEVENT FOR PROPER OPERATION OF THIS FUNCTION. IT MAY BE DISABLED BY SWITCH SELECTION. SWITCH #5 OF E21 DISABLES THIS FUNCTION WHEN OFF.</p> <p>3.2 ADDRESS</p> <p>177546 BIT 6 BEVENT CLAMPED WHEN CLEAR (RTC OFF)</p> <p>4.0 MAINTENANCE REGISTERS</p> <p>4.1 READ WRITE REGISTER</p> <p>A SIXTEEN BIT READ WRITE REGISTER IS PROVIDED AT ADDRESS 177522 FOR DIAGNOSTICS. THE REGISTER IS WORD OR BYTE ADDRESSABLE AND IS CLEARED UPON NEGATION OF BDCOK.</p> <p>4.2 DISPLAY REGISTER</p> <p>A 4 BIT WRITE ONLY REGISTER AT ADDRESS 177524 CONTROLS A 4 LED EDGE MOUNTED RED DISPLAY USED FOR DIAGNOSTICS. BITS 0-3 CORRESPOND TO D1 TO D4 WITH A SET BIT TURNING THE RESPECTIVE LED OFF. THE REGISTER IS CLEARED (ALL LEDS ON) UPON NEGATION OF BDCOK.</p> <p>4.3 SWITCH REGISTER</p> <p>A 12 BIT READ ONLY REGISTER AT ADDRESS 177524 IS USED FOR MAINTENANCE AND SYSTEM CONFIGURATION (BITS 0-11). NOTE THAT THIS ADDRESS IS SHARED WITH THE DISPLAY REGISTER. E15 SWITCHES 1-8 CORRESPOND TO BITS 0-7 AND E21 SWITCHES 1-4 CORRESPOND TO BITS 8-11 WITH A ON SWITCH READ AS A 1 AND AN OFF SWITCH AS A 0.</p>			
SIZE A	CODE SP	NUMBER M8012-0-7	REV A

ENGINEERING SPECIFICATION		CONTINUATION SHEET													
TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD															
<p>5.0 TERMINATION/PINOUT</p> <p>ALL BUS LINES ARE TERMINATED BY A RESISTOR NETWORK OF 180 OHMS TO +5 AND 390 OHMS TO GND.</p> <p>THE PINOUT AND BUS DRIVER/RECEIVER CHARACTERISTICS COMPLY WITH THE LSI-11 BUS SPECIFICATION (DEC STD-160)</p> <p>6.0 POWER OK LED, RESTART AND HALT SWITCHES</p> <p>A GREEN EDGE MOUNTED POWER OK LED IS PROVIDED AND IS LIGHTED WHEN +12 IS GREATER THAN 10 VOLTS AND +5 IS GREATER THAN 4V VOLTS.</p> <p>A EDGE MOUNTED SWITCH (S2) REBOOTS THE SYSTEM BY DEASSERTING BDCOK FOR A NOMINAL 2 USEC WHEN IT IS CYCLED BACK AND FORTH ONCE. A SECOND EDGE MOUNTED SWITH (S1) ASSERTS BHALT WHEN POSITIONED WITH ITS LEVER AWAY FROM THE LED DISPLAY.</p> <p>7.0 ROM CODE</p> <p>SEE DIAGNOSTIC ENGINEERING DESIGN PLAN FOR THE BDV11-AA DIAGNOSTIC ROM, DIAGNOSTIC RETRIVAL NUMBER HP-046-10-558 FOR BOOTSTRAPS/DIAGNOSTICS AND RESTRICTIONS ON EPROM AND PROGRAM ROM CODE</p> <p>8.0 TEST POINTS</p> <p>TIP JACKS ARE PROVIDED TO ALLOW MEASUREMENT OF THE 5 AND 12 VOLT POWER SUPPLIES. THE 5 AND 12 VOLT TEST JACKS HAVE A 560 OHM SERIES RESISTOR TO PREVENT DAMAGE BY ACCIDENTAL SHORTS.</p> <table><tr><td>JACK</td><td>FUNCTION</td><td>COLOR</td></tr><tr><td>J1</td><td>GND</td><td>BLACK</td></tr><tr><td>J2</td><td>+5</td><td>RED</td></tr><tr><td>J3</td><td>+12</td><td>PURPLE</td></tr></table>				JACK	FUNCTION	COLOR	J1	GND	BLACK	J2	+5	RED	J3	+12	PURPLE
JACK	FUNCTION	COLOR													
J1	GND	BLACK													
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TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD																																																																																							
<p>9.0 ROM ADDRESS MAP</p> <p>SEE SECTION 9.4 FOR DESCRIPTION OF CHARACTERS USED TO BRACKET ADDRESSES IN 9.1 TO 9.3</p> <p>9.1 MASKED BOOT/DIAGNOSTIC ROM</p> <table><tr><td>HIGH BYTE</td><td>LOW BYTE</td><td>CHIP ADDRESS</td></tr><tr><td>-----</td><td>-----</td><td></td></tr><tr><td>I I</td><td>I I</td><td>0-2K, (4K-6K)</td></tr><tr><td>I E53 I</td><td>I E43 I</td><td>BOOT/DIAG</td></tr><tr><td>I I</td><td>I I</td><td>[16K-18K], &lt;20K-22K&gt;</td></tr><tr><td>-----</td><td>-----</td><td></td></tr><tr><td>I I</td><td>I I</td><td>2K-4K, (6K-8K)</td></tr><tr><td>I E58 I</td><td>I E44 I</td><td>RESERVED</td></tr><tr><td>I I</td><td>I I</td><td>[18K-20K], &lt;22K-24K&gt;</td></tr><tr><td>-----</td><td>-----</td><td></td></tr><tr><td>I I</td><td>I I</td><td>4K-5K, (0-1K)</td></tr><tr><td>I E57 I</td><td>I E40 I</td><td>&lt;16K-17K&gt;, [20K-21K]</td></tr><tr><td>I I</td><td>I I</td><td></td></tr><tr><td>-----</td><td>-----</td><td></td></tr><tr><td>I I</td><td>I I</td><td>5K-6K, (1K-2K)</td></tr><tr><td>I E52 I</td><td>I E36 I</td><td>&lt;17K-18K&gt;, [21K-22K]</td></tr><tr><td>I I</td><td>I I</td><td></td></tr><tr><td>-----</td><td>-----</td><td></td></tr><p>9.3 PROGRAM ROM/EPROM</p><table><tr><td>HIGH BYTE</td><td>LOW BYTE</td><td>ADDRESS</td></tr><tr><td>-----</td><td>-----</td><td></td></tr><tr><td>I I</td><td>I I</td><td>16K 18K, 116K-17K!</td></tr><tr><td>I E54 I</td><td>I E49 I</td><td>:0-2K:, *0-1K!</td></tr><tr><td>I I</td><td>I I</td><td></td></tr><tr><td>-----</td><td>-----</td><td></td></tr><tr><td>I I</td><td>I I</td><td>18K-20K, 118K-19K!</td></tr><tr><td>I E59 I</td><td>I E45 I</td><td>:2K-4K:, *1K-2K!</td></tr><tr><td>I I</td><td>I I</td><td></td></tr><tr><td>-----</td><td>-----</td><td></td></tr></table></table>				HIGH BYTE	LOW BYTE	CHIP ADDRESS	-----	-----		I I	I I	0-2K, (4K-6K)	I E53 I	I E43 I	BOOT/DIAG	I I	I I	[16K-18K], <20K-22K>	-----	-----		I I	I I	2K-4K, (6K-8K)	I E58 I	I E44 I	RESERVED	I I	I I	[18K-20K], <22K-24K>	-----	-----		I I	I I	4K-5K, (0-1K)	I E57 I	I E40 I	<16K-17K>, [20K-21K]	I I	I I		-----	-----		I I	I I	5K-6K, (1K-2K)	I E52 I	I E36 I	<17K-18K>, [21K-22K]	I I	I I		-----	-----		HIGH BYTE	LOW BYTE	ADDRESS	-----	-----		I I	I I	16K 18K, 116K-17K!	I E54 I	I E49 I	:0-2K:, *0-1K!	I I	I I		-----	-----		I I	I I	18K-20K, 118K-19K!	I E59 I	I E45 I	:2K-4K:, *1K-2K!	I I	I I		-----	-----	
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ENGINEERING SPECIFICATION		CONTINUATION SHEET	
TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD			
9.2 PROGRAM ROM/EPROM CONTINUED.			
HIGH BYTE	LOW BYTE	CHIP ADDRESS	
I I I E60 I I I	I I I E41 I I I	20K-22K, !20K-21K! :4K-6K!, *4K-5K*	
I I I E55 I I I	I I I E37 I I I	22K-24K, !22K-23K! :6K-8K!, *6K-7K*	
I I I E51 I I I	I I I E38 I I I	24K-26K, !17K-18K! :8K-10K!, *1K-2K*	
I I I E47 I I I	I I I E42 I I I	26K-28K, !19K-20K! :10K-12K!, *3K-4K*	
I I I E43 I I I	I I I E46 I I I	28K-30K, !21K-22K! :12K-14K!, *5K-6K*	
I I I E39 I I I	I I I E50 I I I	30K-32K, !23K-24K! :14K-16K!, *7K-8K*	
SIZE A	CODE SP	NUMBER M8012-0-7	REV A

ENGINEERING SPECIFICATION		CONTINUATION SHEET						
TITLE M8012 -- TERM BOOT AND DIAGNOSTIC BOARD								
9.4 ADDRESS JUMPERS								
THE CHARACTERS USED TO BRACKET VARIOUS ADDRESSES IN SECTIONS 9.1 TO 9.3 CORRESPOND TO THOSE IN THE TABLE BELOW. FOR EACH JUMPER COMBINATION LISTED BELOW A GIVEN CHIP WILL BE SELECTED AT THE ADDRESSES INDICATED BY THE BRACKETS								
CHAR	W1	W2	W3	W4	W9	W10	W11	W12
NONE	R	I	I	R	I	R	R	I
( )	X	X	X	X	I	R	I	R
[ ]	X	X	X	X	R	I	R	I
< >	X	X	X	X	R	I	I	R
! !	I	R	I	R	X	X	X	X
: :	R	I	R	I	X	X	X	X
* *	I	R	R	I	X	X	X	X
I=INSTALLED				R=REMOVED		X=DON'T CARE		
NOTE:				JUMPERS MUST NOT BE CONFIGURED AND CHIPS INSTALLED SUCH THAT 2 CHIPS RESPOND TO THE SAME ADDRESS.				
10.0 PROGRAM ROM/EPROM JUMPERS								
	W5	W6	W7	W8	W13			
8316E	I	R	I	R	R	NOTE 1		
8316E	R	R	I	R	I	NOTE 2		
2716	R	R	I	R	I	NOTE 3		
2708	R	I	R	I	R	NOTE 4		
NOTES:								
(1)				CS1=0, CS2=0, CS3=0				
(2)				CS1=0, CS2=0, CS3=1				
(3)				+5 VOLT ONLY PARTS				
(4)				2708 WITH EXTERNAL -5 SUPPLIED BY CB2 & DB2.				
SIZE A	CODE SP	NUMBER M8012-0-7	REV A					



## FIELD MAINTENANCE PRINT SET

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[illegible]

PRINT SET ORDER NO.  
MP00487

EN-01124.10-M074-327



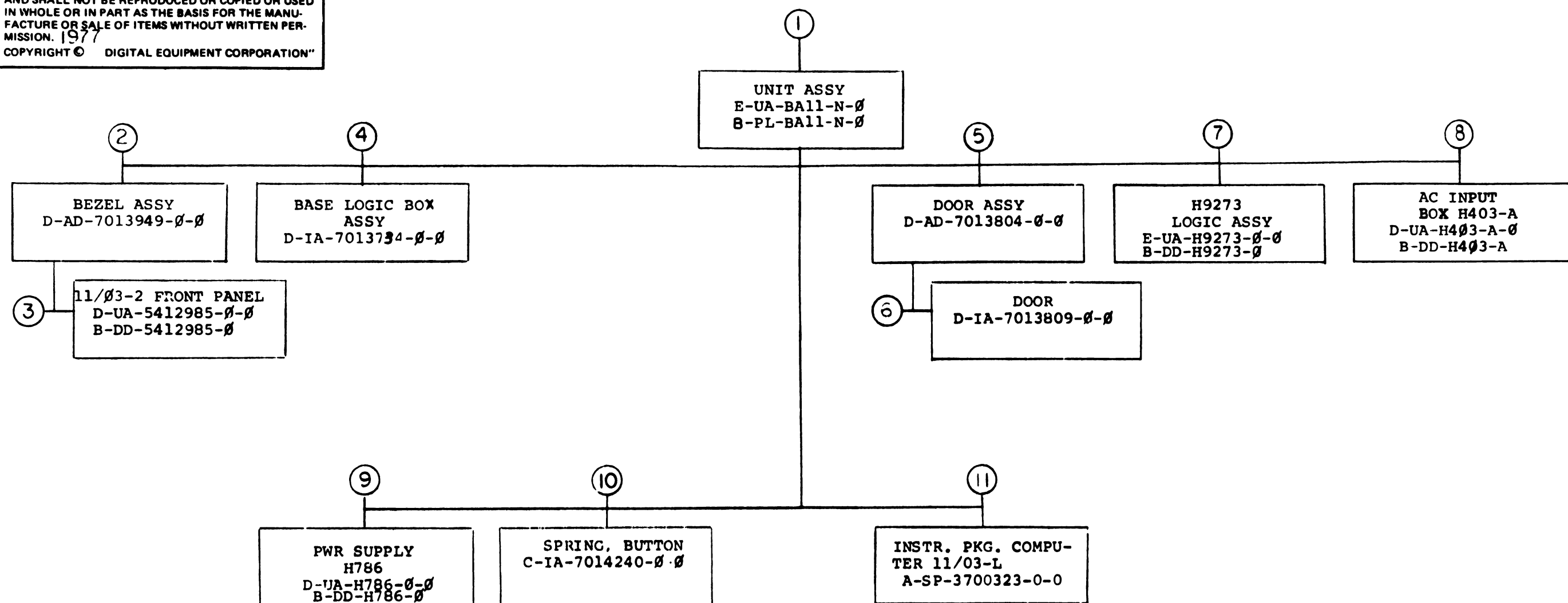
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BA11-NC	METAL COVER, H9273 BACKPLANE, CONSOLE,
	H786, 115V
BA11-ND	METAL COVER, H9273 BACKPLANE, CONSOLE,
	H786, 230V
BA11-NE	METAL COVER, H9273 BACKPLANE, NO CONSOLE,
	H786, 115V
BA11-NF	METAL COVER, H9273 BACKPLANE, NO CONSOLE,
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REVISIONS		CHANGE NO.	REV.
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		BA11N-ML0003	B

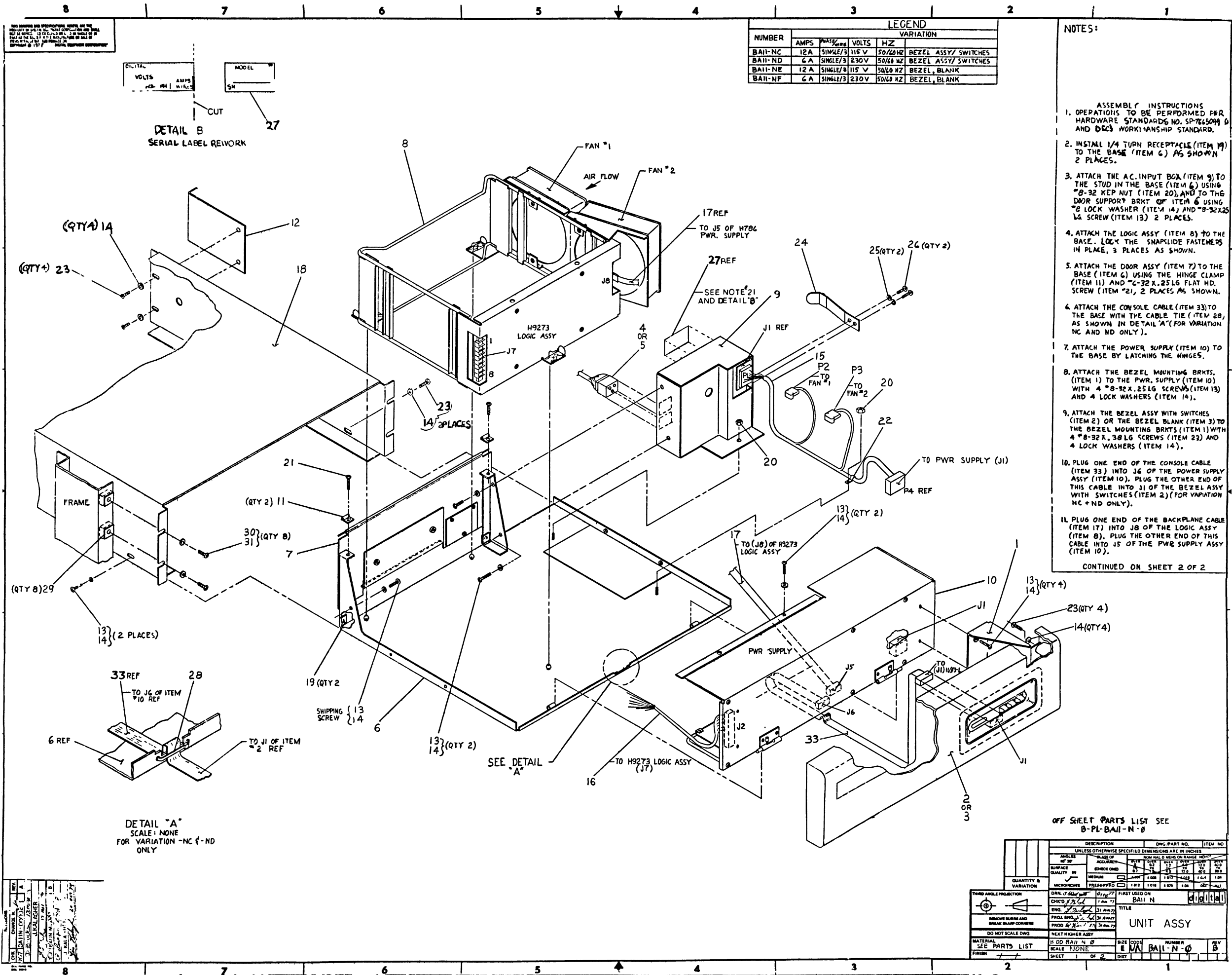
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BA11-N		CHK'D.	DATE				
		J. Talbark	2 MAY 77				
		PROJ. ENG.	DATE				
		J. Kelly	9 SEPT 77	SIZE	CODE	NUMBER	REV
		PROD.	DATE	B	DD	BA11-N	B
		R. Hamilton	9-Sept-77				
SHEET 1 OF 3		DIST.					

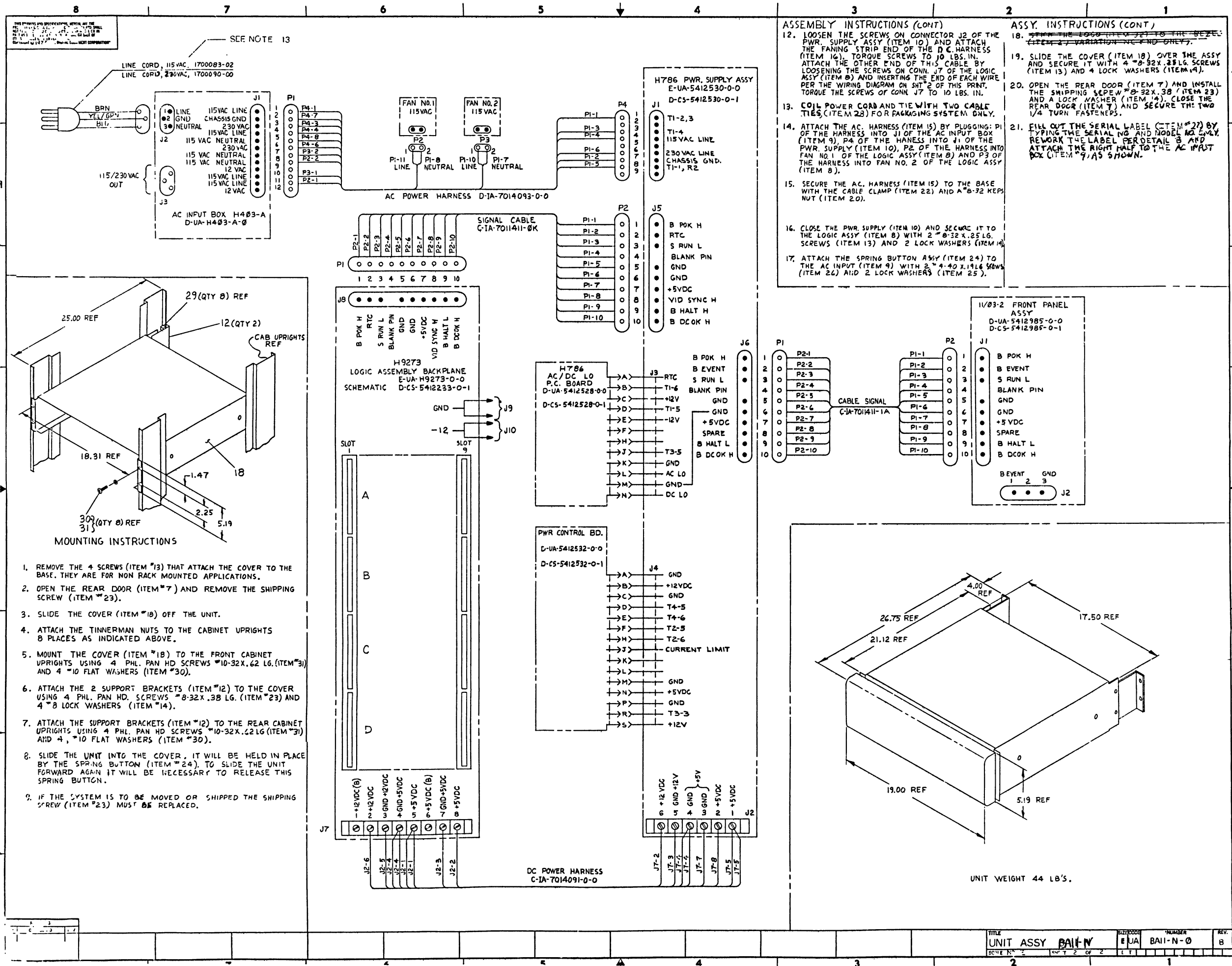
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TITLE	LOGIC BOX BAIL-N	SHEET 2 OF 3	SIZE CODE	NUMBER	REV
			B DD	BAIL-N	B







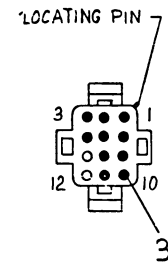


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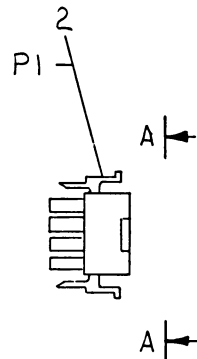
WIRE TABLE								
ITEM NO	DESCRIPTION		FROM			TO		
	AWG	COLOR	POINT	CONN	TERM	POINT	CONN	TERM
5	18	BLK	1	PI-10	3	13	P3	---
			2	PI-7	---	14	P3	---
			3	PI-11	---	11	P2	---
5	18	BLK	4	PI-8	---	12	P2	---
			5	PI-4	---	19	P4-4	3
10	14	BLK	5	PI-4	---	19	P4-4	3
4	14	BLU	6	PI-5	---	17	P4-8	---
11	14	BRN	7	PI-6	---	16	P4-6	---
7	18	BLK	8	PI-1	---	18	P4-1	---
9	18	GRN/YEL	9	PI-2	---	20	P4-7	---
8	18	BRN	10	PI-3	3	15	P4-3	3

NOTES:

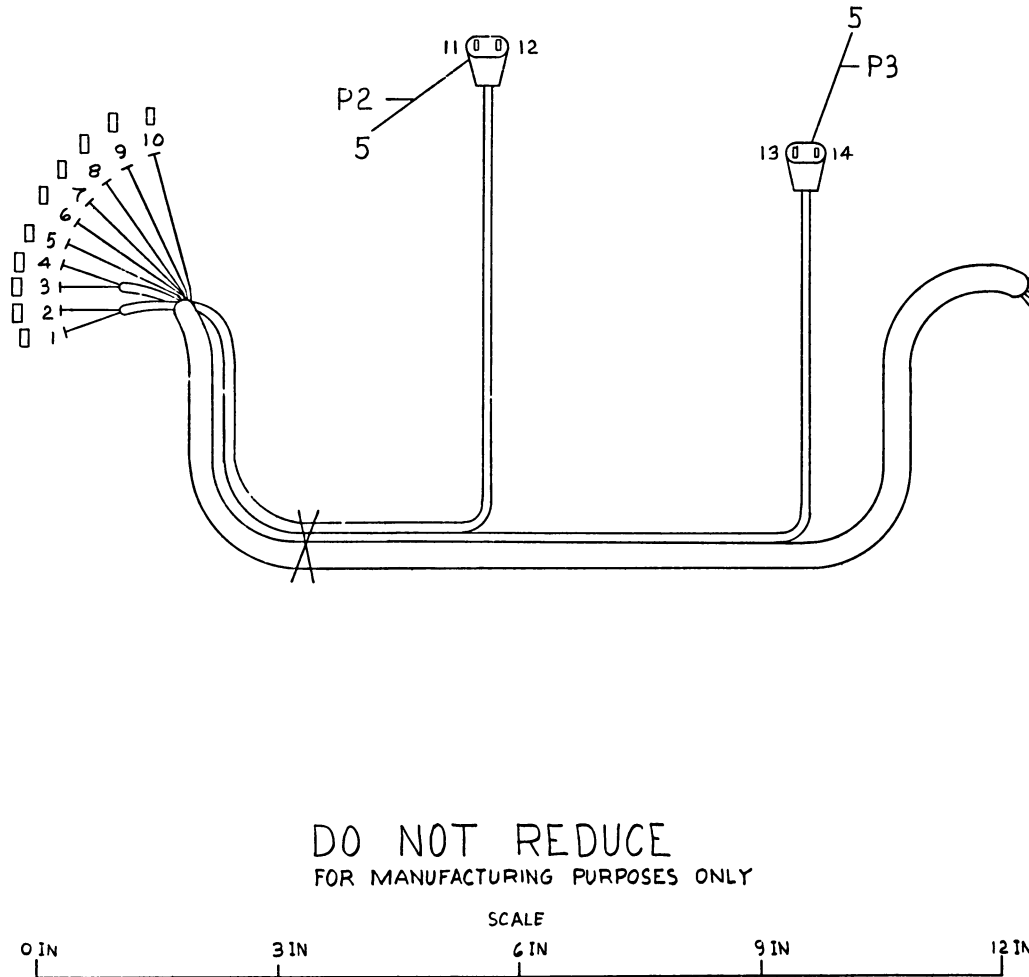
1. USE TIE WRAPS (X) ITEM #6 APPROXIMATELY AS SHOWN.



VIEW A-A  
SCALE: 1/1  
WIRING SIDE

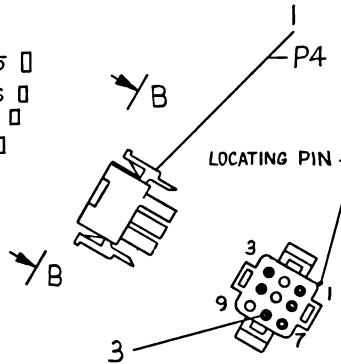


VIEW A-A  
SCALE: 1/1  
WIRING SIDE



DO NOT REDUCE  
FOR MANUFACTURING PURPOSES ONLY

SCALE  
0 IN 3 IN 6 IN 9 IN 12 IN



VIEW B-B  
SCALE: 1/1  
WIRING SIDE

1/4" TUBING, EXTRUDED	9107245-00	12
A/R WIRE, #14 AWG 300V (BRN)	9107787-11	11
WIRE, #14 AWG (BLK)	9107370-00	10
WIRE, #18 AWG (GRN/YEL)	9107410-54	9
WIRE, #18 AWG 300V (BRN)	9107786-11	8
A/R WIRE, #18 AWG (BLK)	9107360-00	7
X 1 TIE, CABLE, SST 1.0M	9007031-00	6
2 PLUG CORD ASSY	1210283-00	5
A/R WIRE, #14 AWG 300V (BLU)	9107767-63	4
16 PIN, FEMALE	1212170-01	3
1 CONN. MATE-N-LOK 12 PIN	1212167-03	2
1 CONN. MATE-N-LOK 9 PIN	1212167-04	1

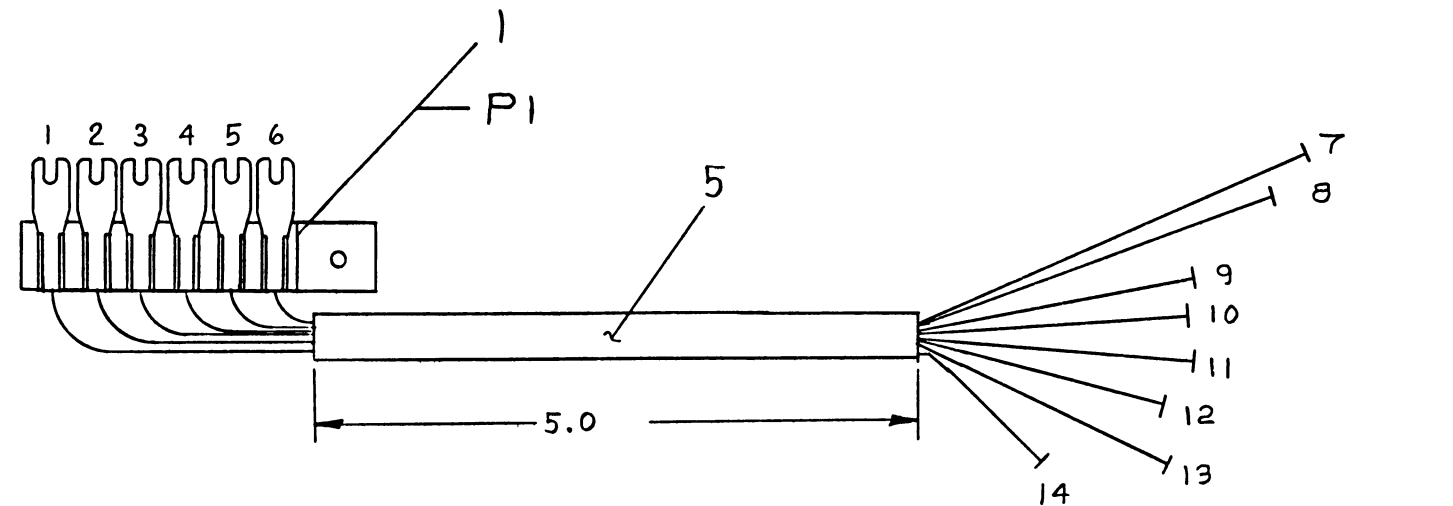
SYM	QTY	DESCRIPTION	DWG/PART NO.	UTL. NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES				
ANGLES	30°/30°	ACCURACY	OVER 0.1	OVER 0.1
SURFACE QUALITY	IN	(CHECK ONE)	0.02	0.02
MICROINCHES	PREFINISHED	0.012	0.012	0.012
QUANTITY & VARIATION				
THIRD ANGLE PROJECTION				
REMOVE BURRS AND BREAK SHARP CORNERS				
DO NOT SCALE DWG				
MATERIAL SEE PARTS LIST				
FINISH				

DRN: 5/3/77	CHK'D: 5/3/77	ENG: 5/3/77	PROD: 5/3/77	NEAT HIGHLY ASY.
FIRST USED ON BAIL-N				
TITLE HARNESS AC POWER				
SIZE CODE NUMBER R-V				
D 1A 7014093-0-0 B				
SHEET OF DIST.				

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WIRE TABLE								
ITEM NO	DESCRIPTION		FROM			TO		
	AWG	COLOR	POINT	CONN.	TERM	POINT	CONN(REF)	TERM(REF)
3	14	RED	—	PI-1	SOLDER	9	J7	5
3	↑	RED	—			11		5
3	↑	RED	—	PI-2	↑	7	↑	8
2	↑	BLK	—	PI-3	↑	8	↑	7
↑	↑	BLK	—	PI-4	↑	10	↑	4
↓	↑	BLK	—			13		4
2	↓	BLK	—	PI-5	↓	12	↓	3
4	14	VIO	—	PI-6	SOLDER	14	J7	2

NOTES:  
1. STRIP INSULATION BACK .38 INCH. POINTS 7-14



DO NOT REDUCE

FOR MANUFACTURING PURPOSES ONLY

A/R TUBING EXTRUDED .375 I.D.	9107245-00	5
A/R WIRE, #14 AWG STRD (VIO)	9107370-77	4
A/R WIRE, #14 AWG STRD (RED)	9107370-22	3
A/R WIRE, #14 AWG STRD (BLK)	9107370-00	2
1 STRIP, CONNECTOR, (6 POSITION)	1212698-00	1

DESCRIPTION		DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES	
SURFACE QUALITY IN MICROINCHES	MEDIUM	OVER 0 TO 0.2	OVER 0.2 TO 1.2
	PREFERRED	OVER 1.2 TO 4.0	OVER 4.0 TO 12.0
		OVER 12.0 TO 40.0	OVER 40.0 TO 80.0

THIRD ANGLE PROJECTION	DRN. <i>B. B. B.</i> 12 APR 77	FIRST USED ON	BALL-N
REMOVE BURRS AND BREAK SHARP CORNERS	CHK'D <i>J. F.</i> 28 APR 77	TITLE	HARNESS, D.C.
DO NOT SCALE DWG	ENG. <i>J. K.</i> 1 JUN 77	SIZE	C
MATERIAL SEE PARTS LIST	PROD. <i>R. H.</i> 15 SEP 77	CODE	IA
FINISH — / —	NEXT HIGHER ASSY.	NUMBER	7014091-0-0
	E-UA-BALL-N-0	REV.	B
	SCALE 1/1		
	SHEET 1 OF 1		

REVISIONS	CHANGE NO.	REV.
CHK	7014091-00001	A
	<i>Q. J.</i> 16 AUG 77	
	J. KALAGHER	
	<i>J. K.</i> 17 AUG 77	
	7014091-00002	B
	<i>J. K.</i> 22 DEC 77	
	J. KALAGHER	



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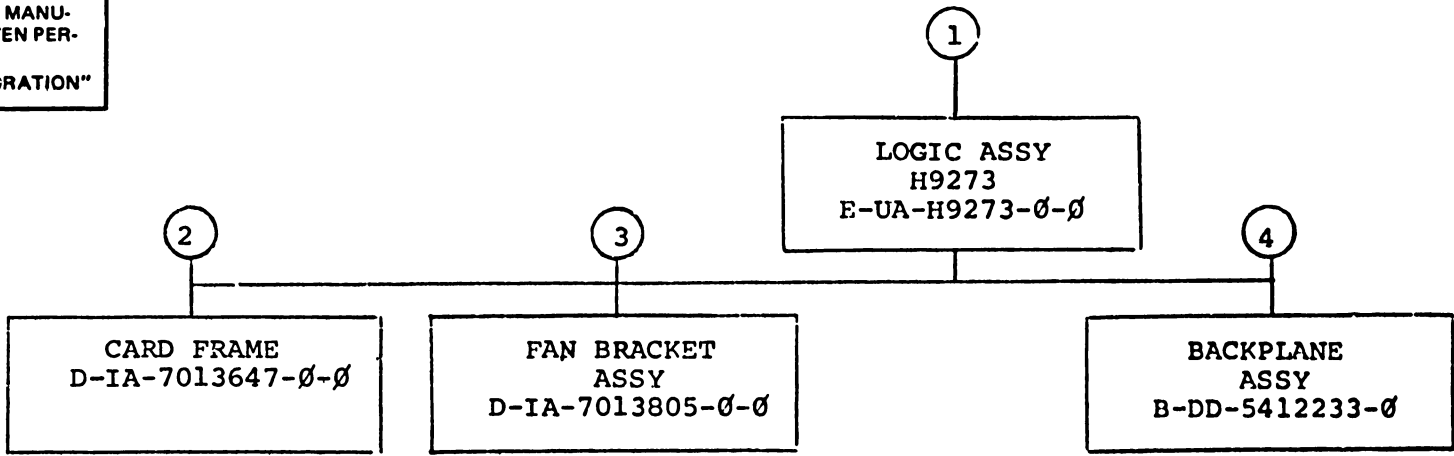
REVISIONS		REV.	REV.
CHK	CHANGE NO.	A	B
1/1	H9273-1		
2/2	H9273-2		

USED ON OPTION/MODEL		DRN.	DATE	TITLE	
H9273		V. SOUZA	22 77 APR	LOGIC ASSY	
		CHK'D.	DATE	H9273	
		J. L. Kowalski	2 MAY 77		
		PROJ. ENG.	DATE		
		J. S. Kowalski	7 SEPT 77		
		PROD.	DATE		
		R. Kowalski	7 SEPT 77		
SHEET 1 OF 3					

SIZE	CODE	NUMBER	REV
B	DD	H9273-0	B

DIST.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				</
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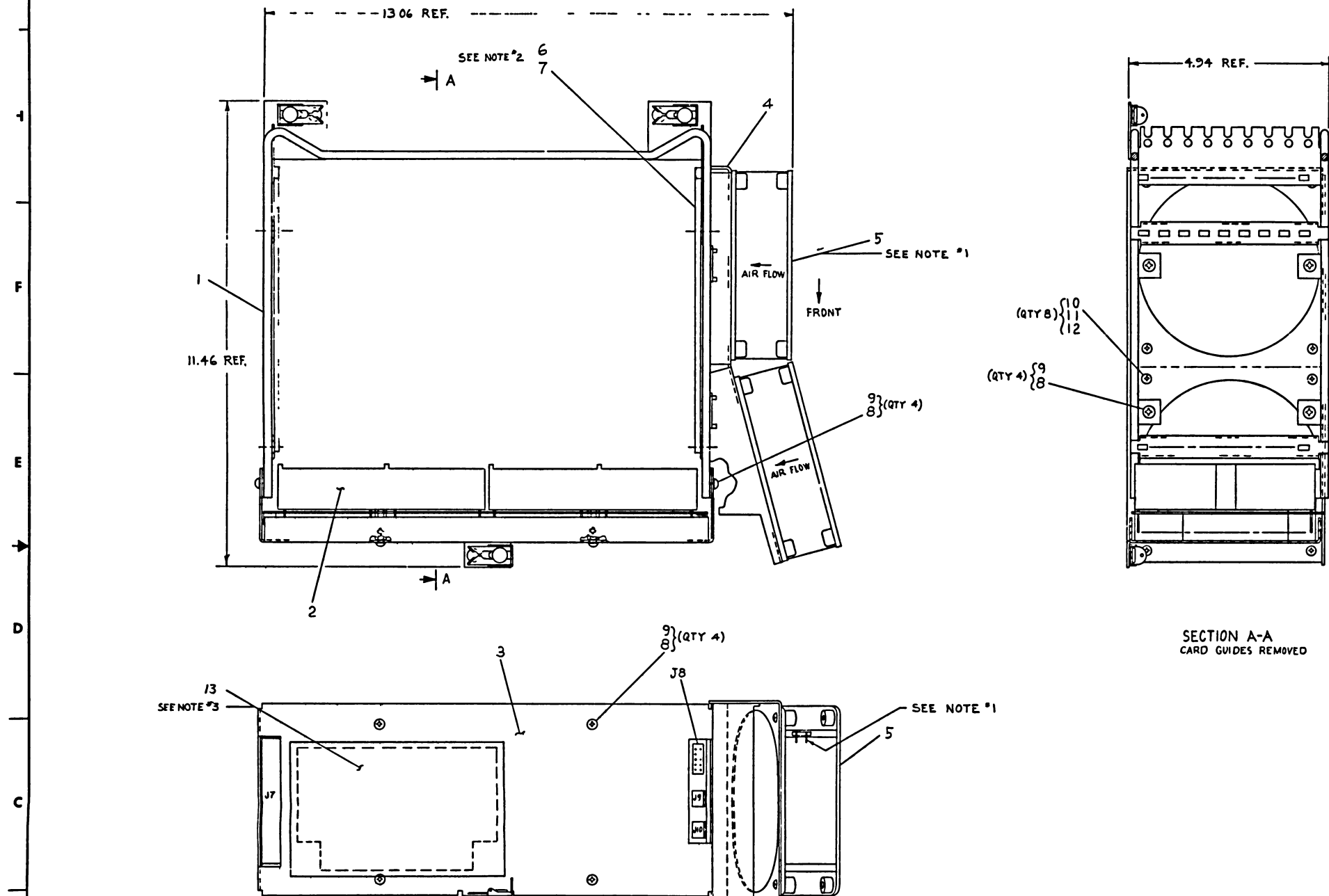
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41	HE373-00001
J. KALAGHER	
JAN 19 1978	
B	
HE373-00001	
AUG 1978	

1	-	PLUCKER INSTRUCTIONS	AS373C384	OC	14
1	-	DECAL IDENTIFICATION	361551700		13
8	-	CLIP, MOUNTING	9009165-00		12
8	-	WASHER, LOCKING	9006433-00		11
8	-	SCR, PH. PAN HD "6-32X.62	9006025-01		10
8	12	WASHER, LOCK INT. TOOTH "8	9006634-00		9
8	12	SCR, PH. PAN HD "8-32X.38	9006037-01		8
10	10	GUIDE, CARD (NATURAL)	1212405-08		7
8	8	GUIDE, CARD (MEGENTA)	1212405-CJ		6
2	2	FAN,	1213185-00		5
1	1	BRKT, FAN MTG	D1A-7213905-0-0		4
1	1	BRACKET, BACKPLANE	D1A-7418121-0-0		3
1	1	BACKPLANE ASSY	D1A-5412233-0-0		2
1	1	CARD FRAME ASSY	C1A-7013047-0-0		1

H9273-A  
1/5273-0

QUANTITY &  
VARIATION

THIRD ANGLE PROJECTION		DESCRIPTION		ENG. PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
SURFACE QUALITY	FINISH	TOLERANCE (SEE NOTE 1)	MATERIAL	NOTES	
				1	2
AS REQUIRED	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
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NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	2
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NONE	NONE	FREE	ALUMINUM	1	2
NONE	NONE	FREE	ALUMINUM	1	



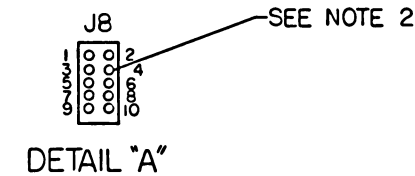
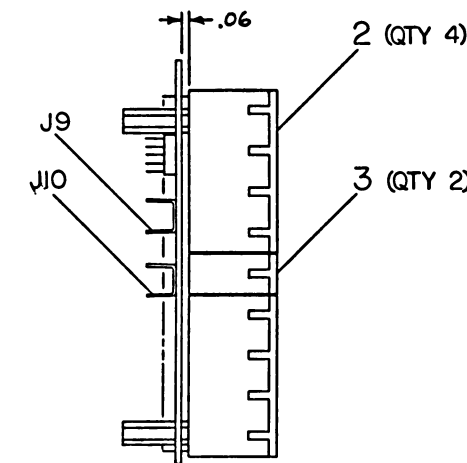
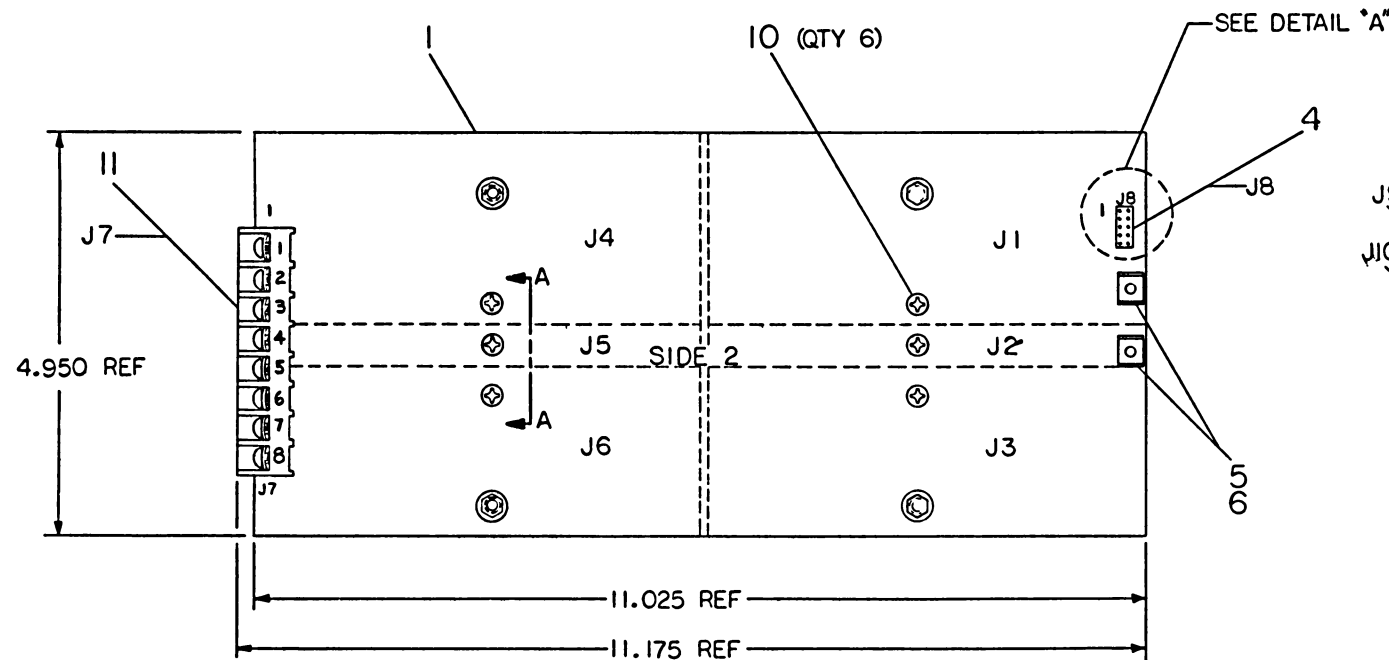
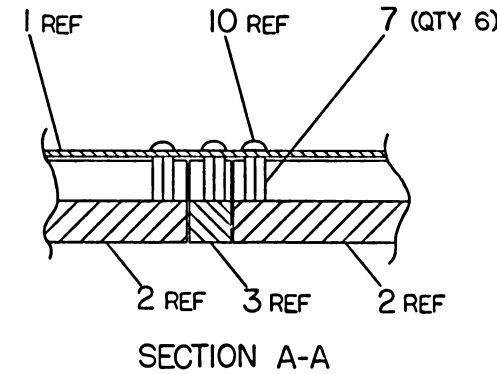
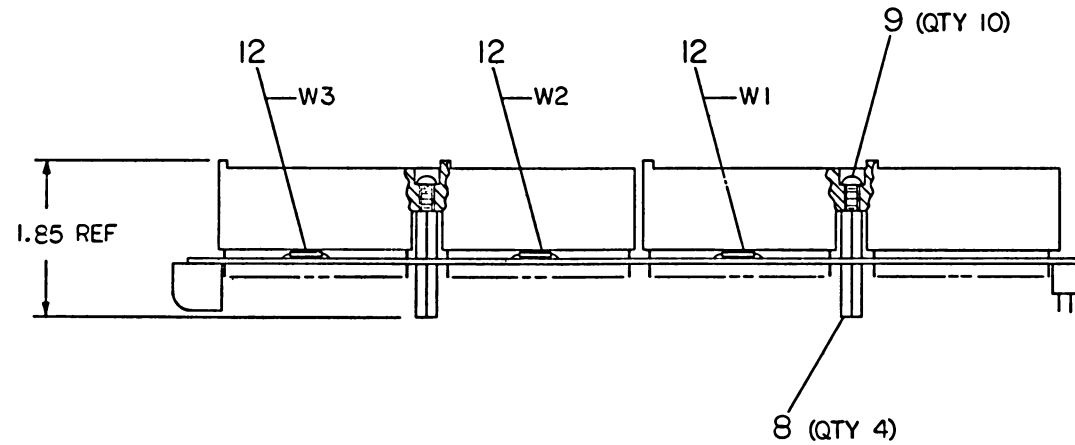


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0-0-5412233-00 2

# NOTES:

- ITEM 13 TO BE USED WHEN SHIPPING THIS ASSEMBLY (5412233) INTERPLANT.
- CUT PIN 4 OF J8 BACK TO THE CARRIER.
- ITEM 2 MAY BE SUBSTITUTED WITH 1210258-00, ITEM 3 MAY BE SUBSTITUTED WITH 1211425-00. CUT ALL PINS .128 FROM BOARD (BEFORE ASSEMBLY)



SEE NOTE 1

SEE NOTE 3  
SEE NOTE 3

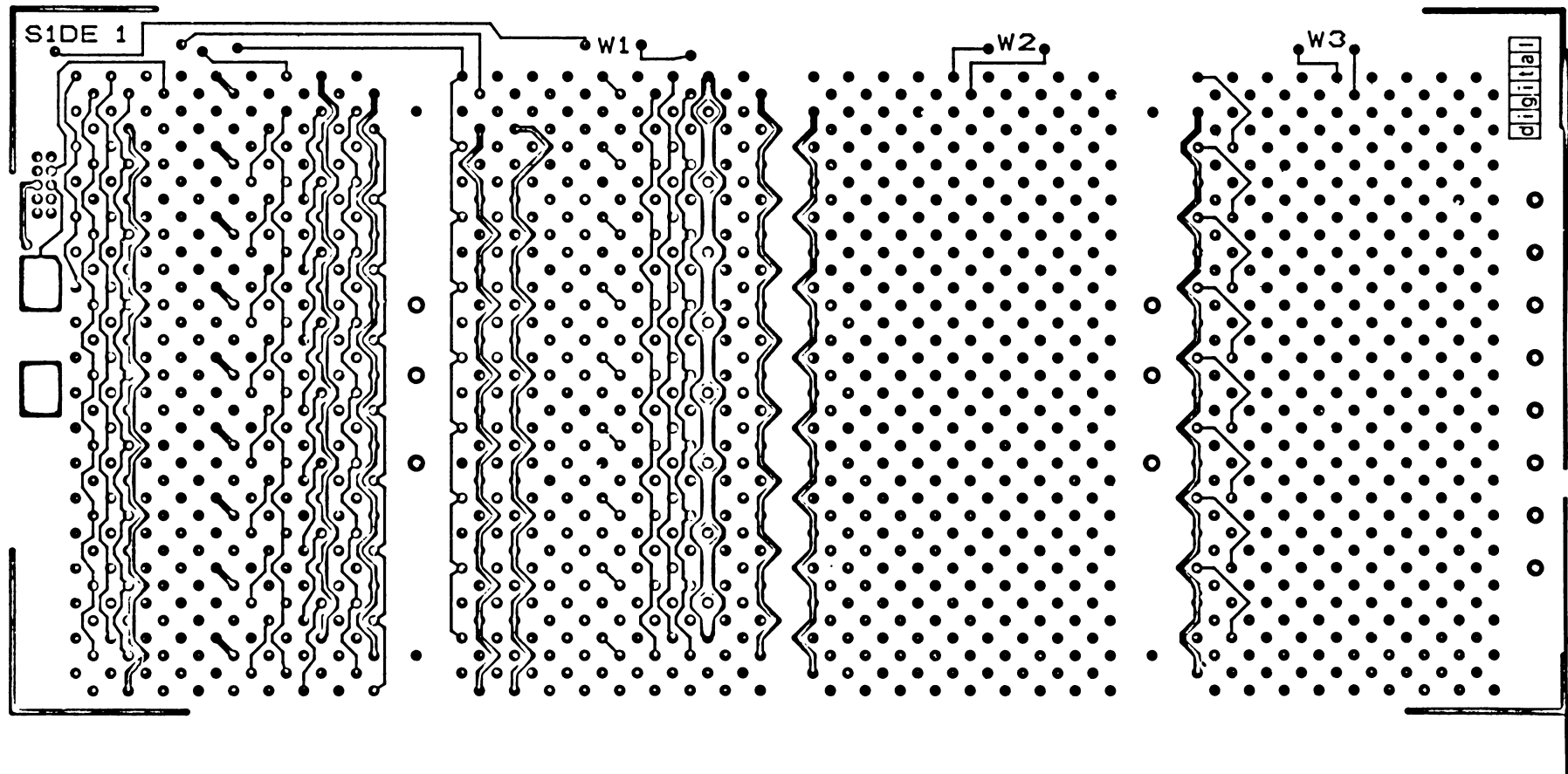
REF	DESCRIPTION	DWG./PART NO.	ITEM NO.
3	JUMPER WIRE WHITE INSUL	9009185	13
1	TERMINAL BLOCK, 8 POS	1213463-04	11
6	SCREW, PH. PHIL. 8-32X.25 LG	9006035-01	10
10	SCREW, PH. PHIL. 8-32X.63 LG	9006120-06	9
4	SPACER, 8-32X.25X1.25 LG	9009603	8
6	SPACER, 8-32X.25X.56 LG	9009602	7
2	EYELET	9009000	6
2	TAB, FASTON	9007113	5
1	CONN. 10 POS.	1213488	4
2	CONN. 72 PIN BLOCK	1211425-02	3
1	CONN. 288 PIN BLOCK	1210258-01	2
1	ETCHED CIRCUIT BOARD	5012232	1

QUANTITY & VARIATION	DESCRIPTION	DWG./PART NO.	ITEM NO.
ANGLES 90° 30°	CLASS OF ACCURACY (CHECK ONE)	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
SURFACE QUALITY IN	MEDIUM	NOMINAL DIMENSION RANGE INCHES	
MICROINCHES	PREFERRED	OVER 0.125 TO 0.250	
		OVER 0.250 TO 0.500	
		OVER 0.500 TO 1.000	
		OVER 1.000 TO 2.000	
		OVER 2.000 TO 4.000	
		OVER 4.000 TO 6.000	
		OVER 6.000 TO 8.000	
		OVER 8.000 TO 10.000	
		OVER 10.000 TO 12.000	
		OVER 12.000 TO 14.000	
		OVER 14.000 TO 16.000	
		OVER 16.000 TO 18.000	
		OVER 18.000 TO 20.000	
		OVER 20.000 TO 22.000	
		OVER 22.000 TO 24.000	
		OVER 24.000 TO 26.000	
		OVER 26.000 TO 28.000	
		OVER 28.000 TO 30.000	
		OVER 30.000 TO 32.000	
		OVER 32.000 TO 34.000	
		OVER 34.000 TO 36.000	
		OVER 36.000 TO 38.000	
		OVER 38.000 TO 40.000	
		OVER 40.000 TO 42.000	
		OVER 42.000 TO 44.000	
		OVER 44.000 TO 46.000	
		OVER 46.000 TO 48.000	
		OVER 48.000 TO 50.000	
		OVER 50.000 TO 52.000	
		OVER 52.000 TO 54.000	
		OVER 54.000 TO 56.000	
		OVER 56.000 TO 58.000	
		OVER 58.000 TO 60.000	
		OVER 60.000 TO 62.000	
		OVER 62.000 TO 64.000	
		OVER 64.000 TO 66.000	
		OVER 66.000 TO 68.000	
		OVER 68.000 TO 70.000	
		OVER 70.000 TO 72.000	
		OVER 72.000 TO 74.000	
		OVER 74.000 TO 76.000	
		OVER 76.000 TO 78.000	
		OVER 78.000 TO 80.000	
		OVER 80.000 TO 82.000	
		OVER 82.000 TO 84.000	
		OVER 84.000 TO 86.000	
		OVER 86.000 TO 88.000	
		OVER 88.000 TO 90.000	
		OVER 90.000 TO 92.000	
		OVER 92.000 TO 94.000	
		OVER 94.000 TO 96.000	
		OVER 96.000 TO 98.000	
		OVER 98.000 TO 100.000	

THIRD ANGLE PROJECTION	DRN. <i>[Signature]</i>	FIRST USED ON	W9273
REMOVE BURRS AND BREAK SHARP CORNERS	CHKD. <i>[Signature]</i>	TITLE	BACKPLANE, UNIT ASSY
DO NOT SCALE DWG	ENG. <i>[Signature]</i>	PROJ. ENG. <i>[Signature]</i>	PROD. <i>[Signature]</i>
MATERIAL <i>++</i>	NEXT HIGHER ASSY.	SIZE CODE	NUMBER
FINISH <i>++</i>	D-UA-H9273	SCALE <i>1-1</i>	D
	SHEET 1 OF 5	DIST.	

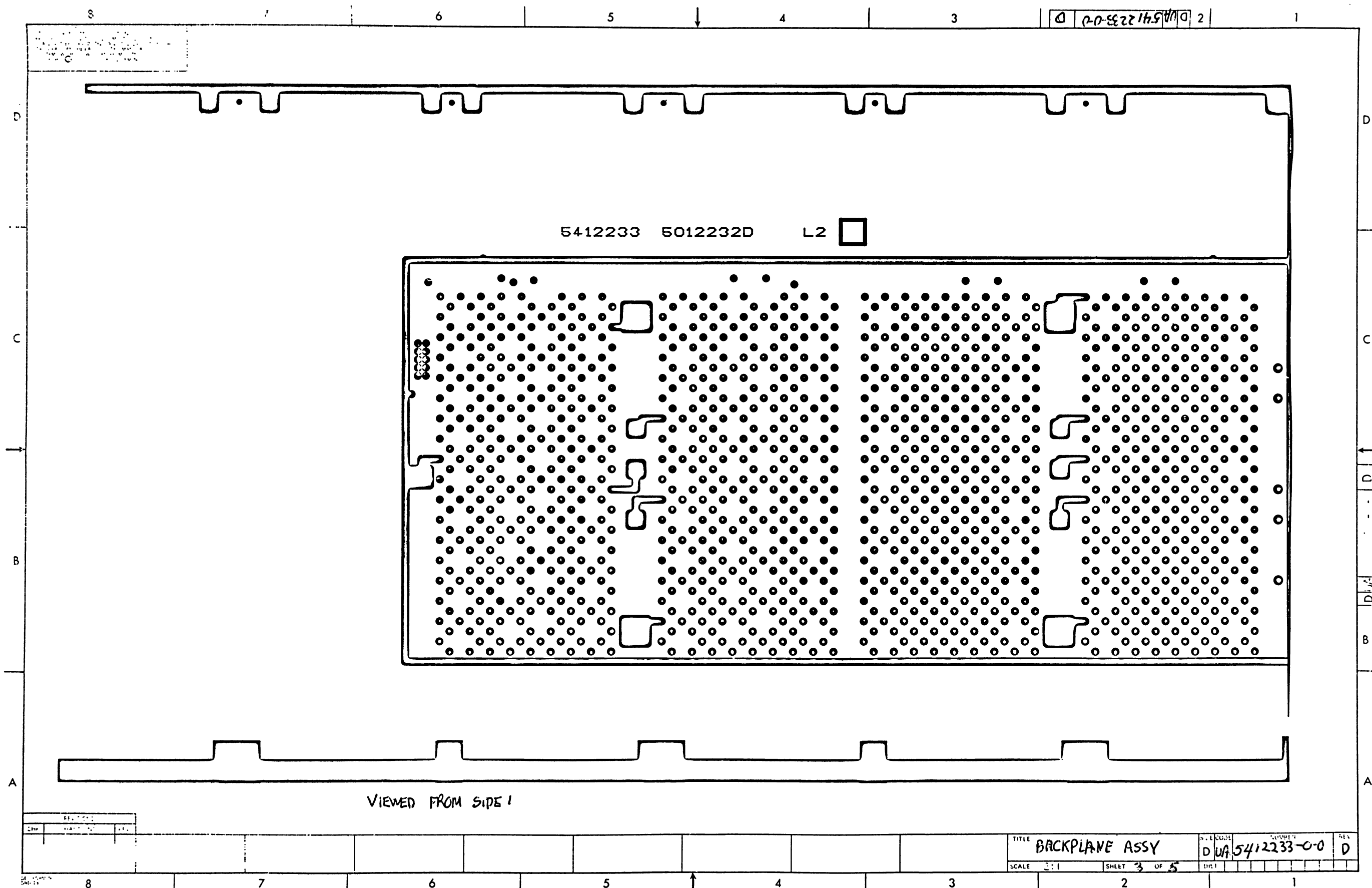
0-088271/5 UNO 1  
5412233-001

5412233 5012232D L1



VIEWED FROM SIDE 1

TITLE	BACKPLANE ASSY	REV	5412233W D
SCALE	SHEET 2 OF 5	DATE	



5412233 5012232D L2

VIEWED FROM SIDE 1

TITLE BACKPLANE ASSY

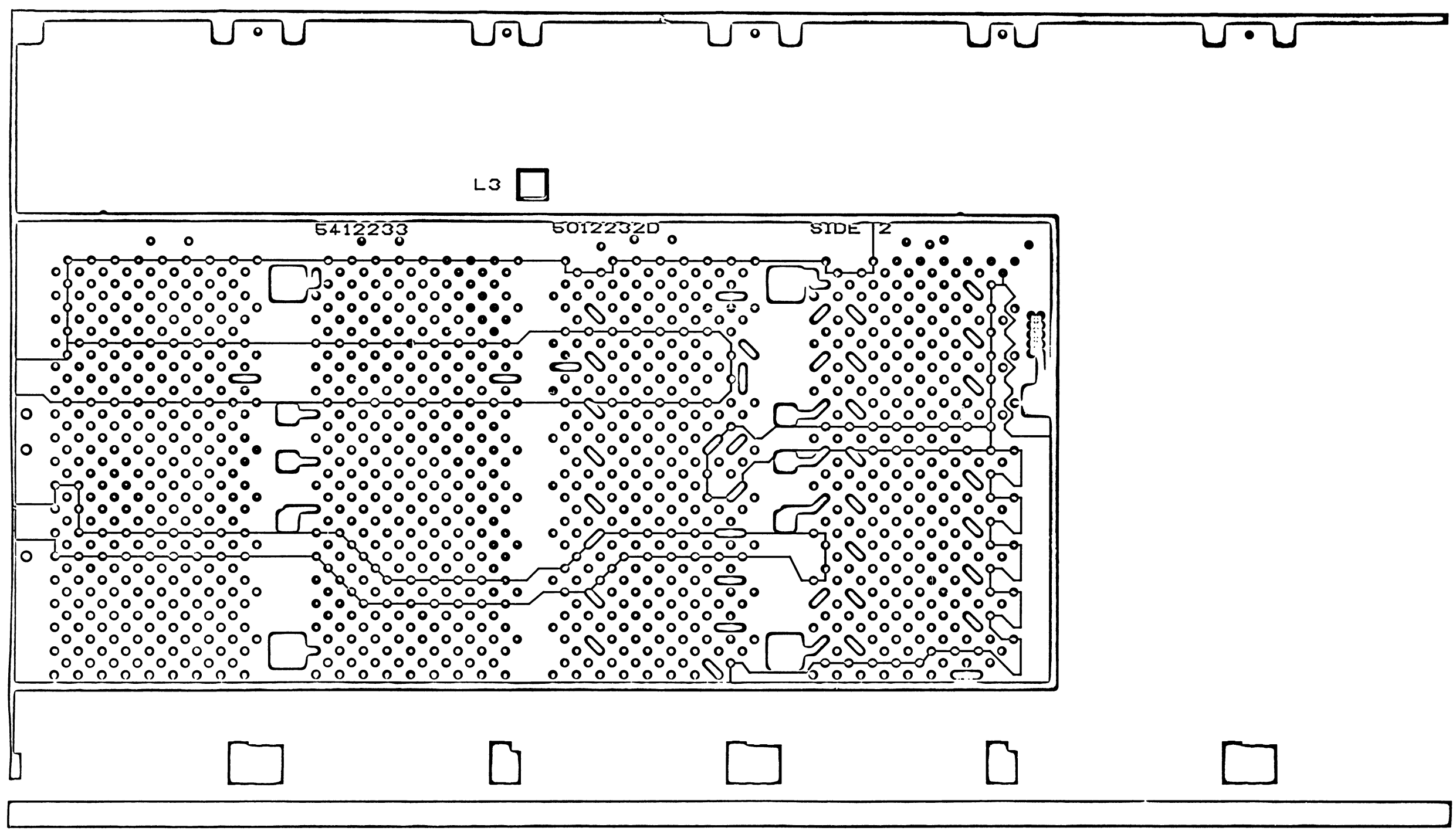
S. E. CODE DUA 5412233-0-0

REV D

SCALE 1:1 SHEET 3 OF 5



12 DUA 541223-00 D



L3

5412233

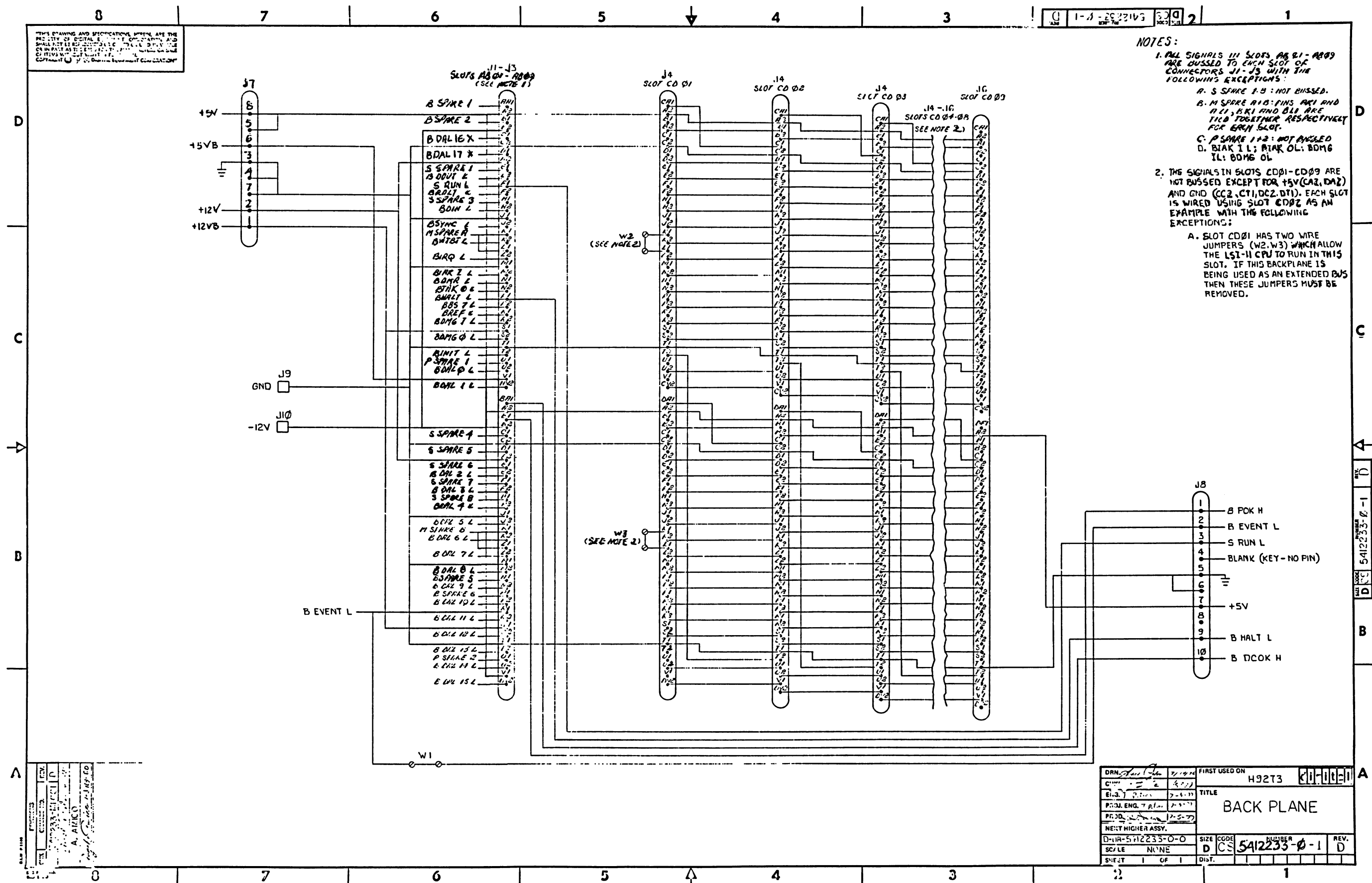
5012232D

SIDE 2

VIEWED FROM SIDE 2

TITLE		BACKPLANE ASSY	DUA		541223-00	D
SCALE	1	SHEET	4	OF	5	





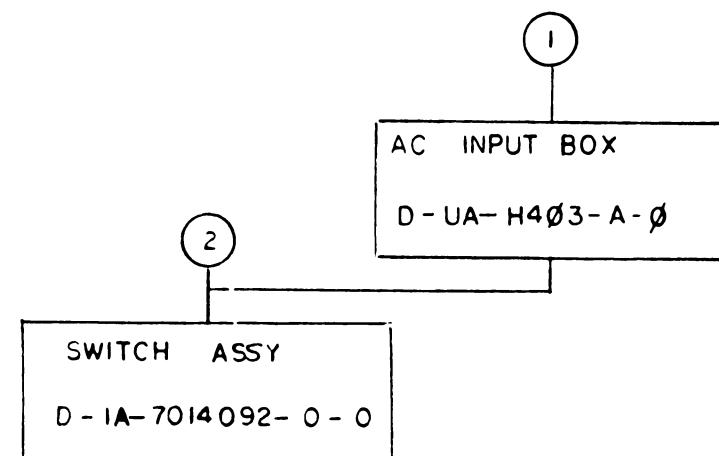
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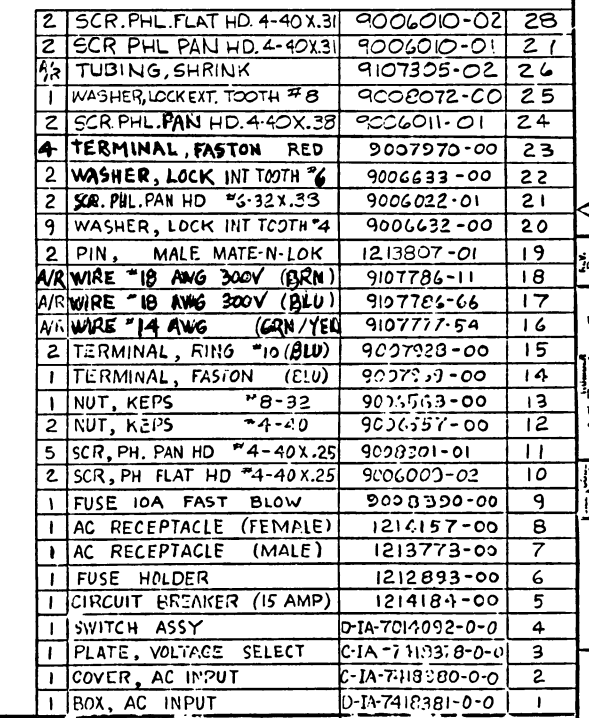
[illegible]

REVISIONS	REV.		USED ON OPTION/MODEL	DRN.	V. SOUZA	DATE	25 77 APR	TITLE AC INPUT BOX H403 - A										digital			
	CHANGE NO.			CHK'D.	J. Falkowski	DATE	2 MAY 77														
	CHK				PROJ. ENG.	J. K. [Signature]	DATE	9 SEP 77	SIZE	CODE	NUMBER				REV						
							B	DD	H403 - A												
			SHEET 1 OF 3	PROD.	K. Hamilton	DATE	9 SEP 77	DIST.													



TITLE	SHEET	REV	NUMBER	REV
AC INPUT BOX H4Ø3-A	2 OF 3	0 DD	H4Ø3 - A	





DESCRIPTION		CUSTOMARY NO.		ITEM NO.	
UNIT, OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES					
ANGLES 30° 35°		ACCURACY (CHECK ONE) <input checked="" type="checkbox"/> 0.1 <input type="checkbox"/> 0.2 <input type="checkbox"/> 0.3 <input type="checkbox"/> 0.4 <input type="checkbox"/> 0.5 <input type="checkbox"/> 0.6 <input type="checkbox"/> 0.7 <input type="checkbox"/> 0.8 <input type="checkbox"/> 0.9 <input type="checkbox"/> 1.0 <input type="checkbox"/> 1.5 <input type="checkbox"/> 2.0 <input type="checkbox"/> 3.0 <input type="checkbox"/> 4.0 <input type="checkbox"/> 5.0 <input type="checkbox"/> 6.0 <input type="checkbox"/> 7.0 <input type="checkbox"/> 8.0 <input type="checkbox"/> 9.0 <input type="checkbox"/> 10.0 <input type="checkbox"/> 12.0 <input type="checkbox"/> 15.0 <input type="checkbox"/> 20.0 <input type="checkbox"/> 25.0 <input type="checkbox"/> 30.0 <input type="checkbox"/> 35.0 <input type="checkbox"/> 40.0 <input type="checkbox"/> 45.0 <input type="checkbox"/> 50.0 <input type="checkbox"/> 55.0 <input type="checkbox"/> 60.0 <input type="checkbox"/> 65.0 <input 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type="checkbox"/> 680.0 <input type="checkbox"/> 690.0 <input type="checkbox"/> 700.0 <input type="checkbox"/> 710.0 <input type="checkbox"/> 720.0 <input type="checkbox"/> 730.0 <input type="checkbox"/> 740.0 <input type="checkbox"/> 750.0 <input type="checkbox"/> 760.0 <input type="checkbox"/> 770.0 <input type="checkbox"/> 780.0 <input type="checkbox"/> 790.0 <input type="checkbox"/> 800.0 <input type="checkbox"/> 810.0 <input type="checkbox"/> 820.0 <input type="checkbox"/> 830.0 <input type="checkbox"/> 840.0 <input type="checkbox"/> 850.0 <input type="checkbox"/> 860.0 <input type="checkbox"/> 870.0 <input type="checkbox"/> 880.0 <input type="checkbox"/> 890.0 <input type="checkbox"/> 900.0 <input type="checkbox"/> 910.0 <input type="checkbox"/> 920.0 <input type="checkbox"/> 930.0 <input type="checkbox"/> 940.0 <input type="checkbox"/> 950.0 <input type="checkbox"/> 960.0 <input type="checkbox"/> 970.0 <input type="checkbox"/> 980.0 <input type="checkbox"/> 990.0 <input 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THIRD ANGLE PROJECTION

QUANTITY  
VARIATION

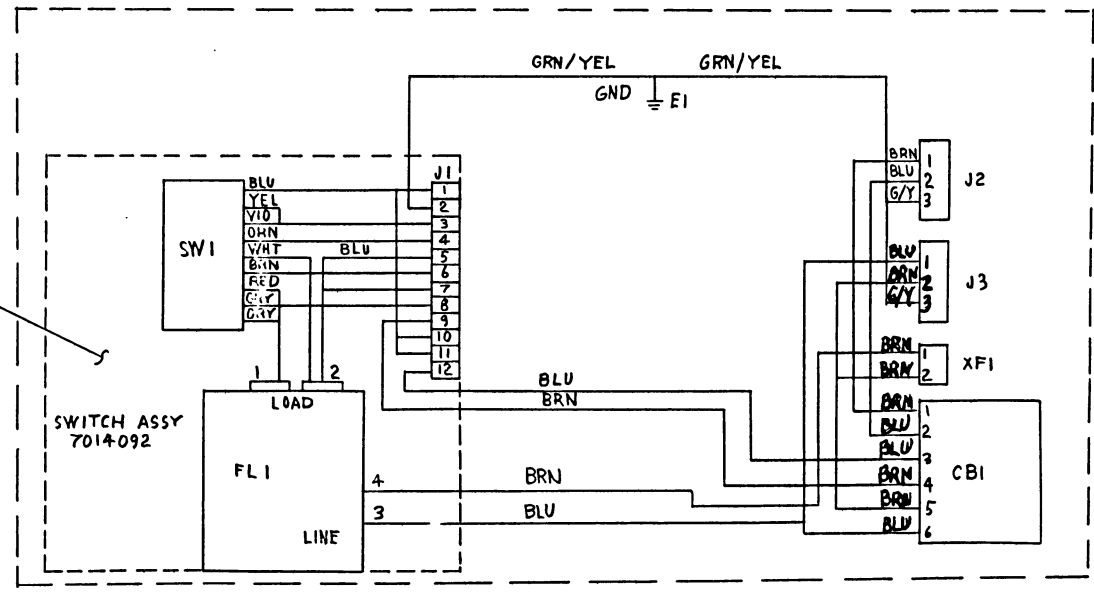
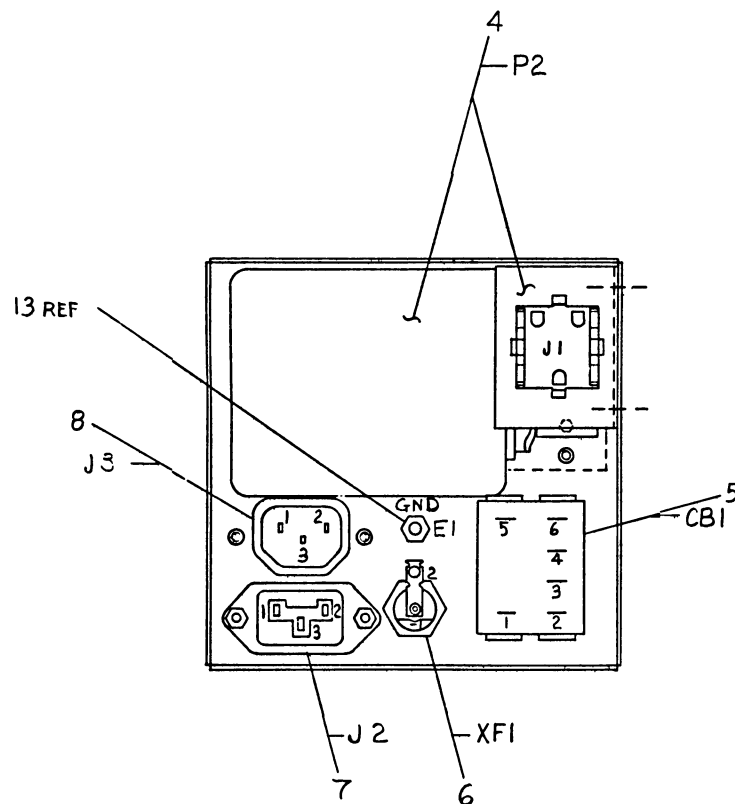
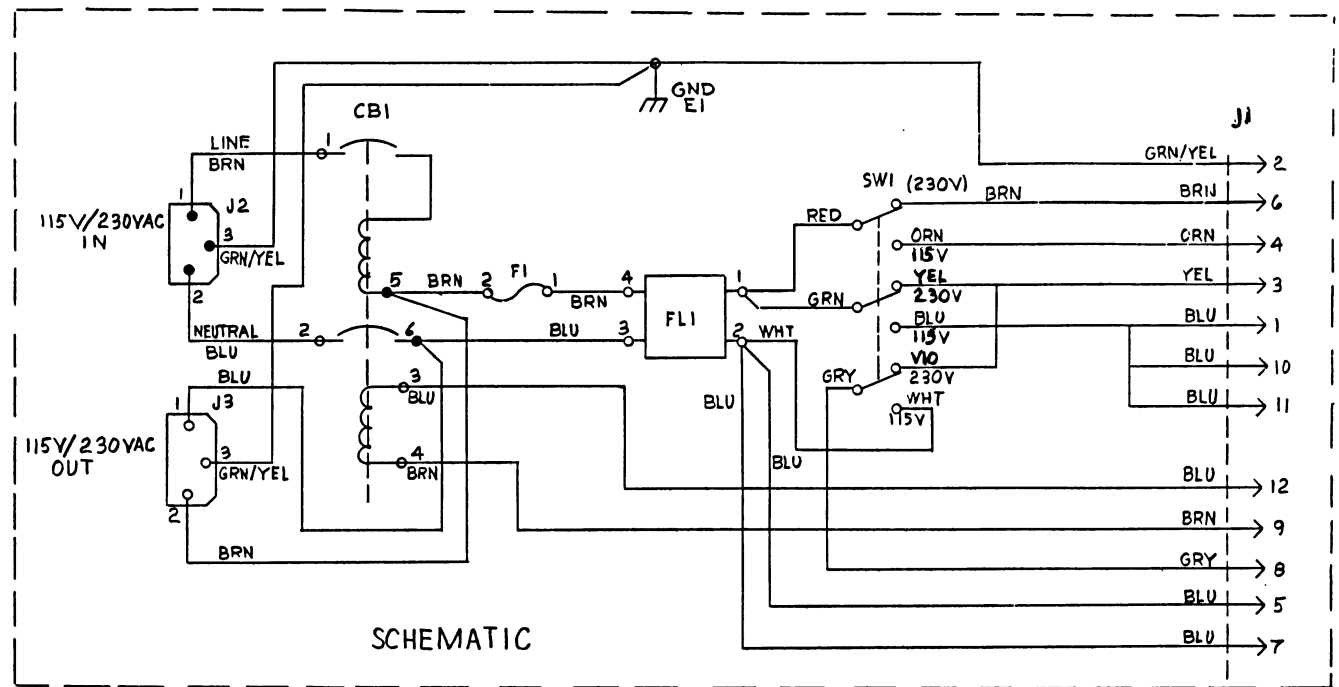
REMOVE DIMENSIONS  
BROKEN OR UNUSABLE

DO NOT SCALE

SEE PARTS LIST

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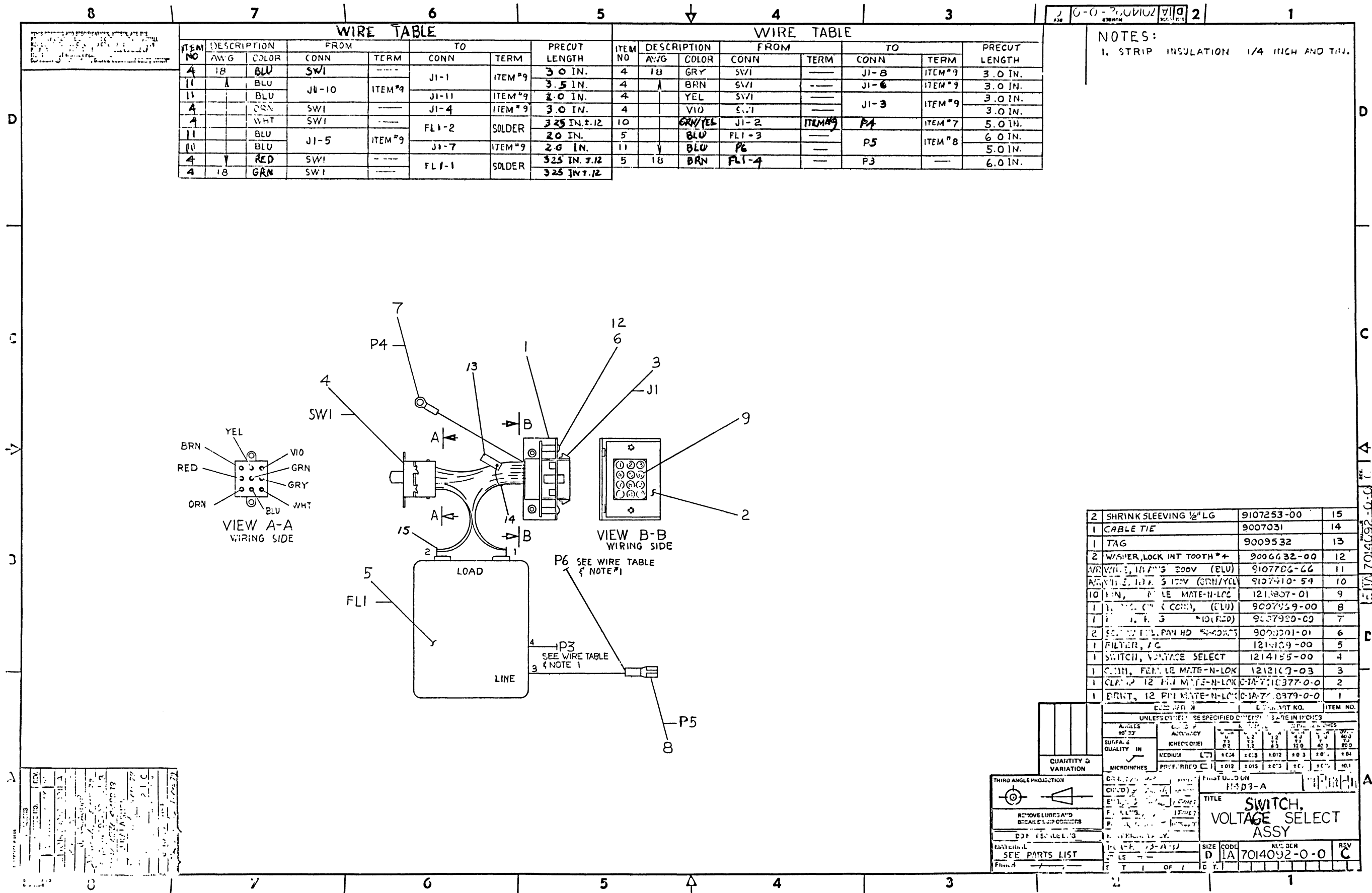
WIRE TABLE							
ITEM NO	DESCRIPTION		FROM		TO		
	AWG	COLOR	CONN	TERM	CONN	TERM	
16	14	GRN/YEL	J3-3	SOLDER	GND (E1)	15	2.25
16	14	GRN/YEL	J2-3	SOLDER		15	2.25
4	13	GRN/YEL	P2 (J1-2)	—		—	—
18		BRN	J2-1	SOLDER	CBI-1	23	5.50
18		BRN	J3-2	SOLDER	CBI-5	14	4.75
18		BRN	XFI-2	SOLDER			3.00
17		BLU	J2-2	SOLDER	CBI-2	23	4.50
17		BLU	P2 (J1-12)	19	CBI-3	23	4.00
18		BRN	P2 (J1-9)	19	CBI-4	23	4.00
4		BRN	P2 (FLI-4)	—	XFI-1	SOLDER	26
4		BLU	P2 (FLI-3)	—	CBI-6	—	—
4	18	BLU	J3-1	SOLDER		—	—



REVISIONS		
CHK	CHANGE NO.	REV.

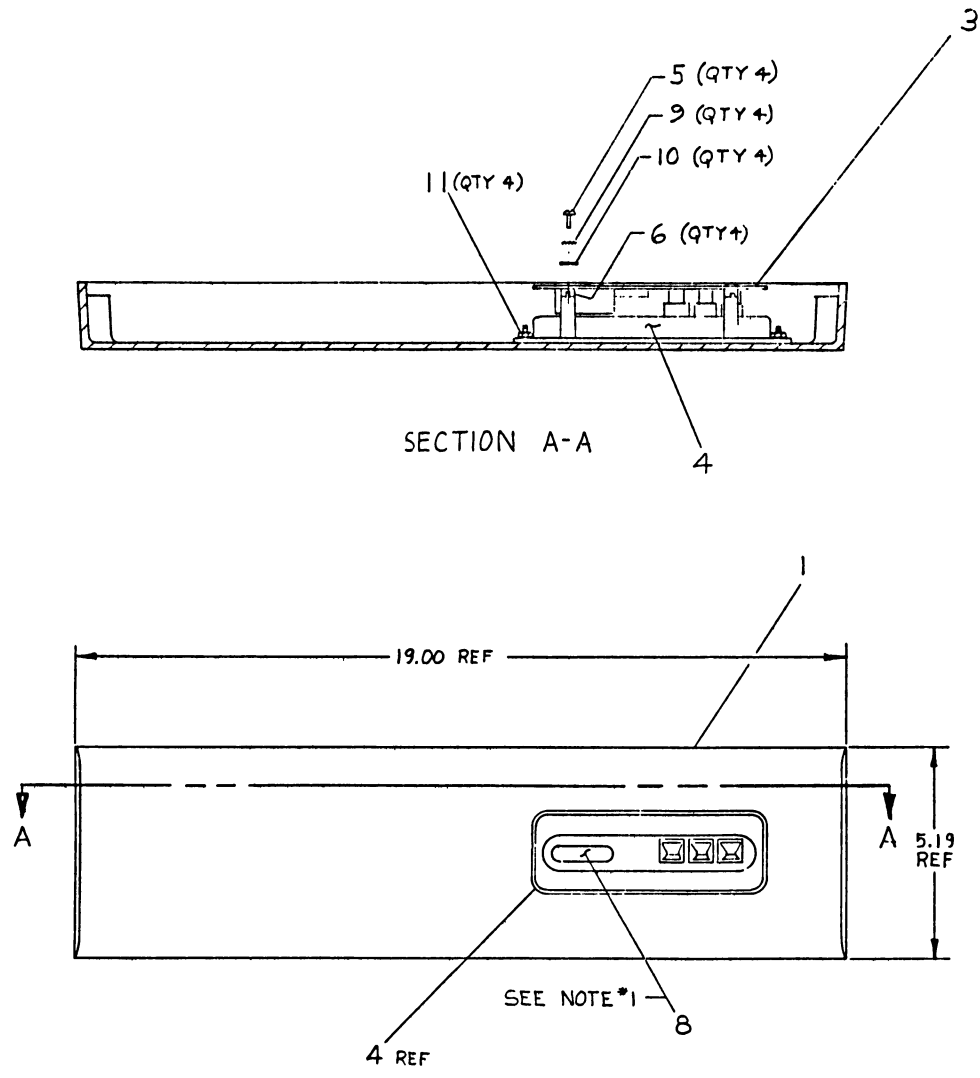
TITLE	AC INPUT BOX H403-A	SIZE CODE	DUA	NUMBER	H403-A-0	REV.	B
SCALE	1/1	SHEET	2	OF	2	DATE	





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NOTES:  
1. ULTRASONICALLY WELD THE WINDOW (ITEM #8) TO THE FRAME (ITEM #4) BEFORE INSTALLING THE FRAME INTO THE BEZEL



1	FASTENER, PUSH ON	9010032-00	11
4	WASHER, FLAT #6	9006653	10
4	L'WASHER #6	9006633	9
1	WINDOW	B-MD-741744-00	8
4	WASHER, FLAT NO. 8	9006650-00	7
4	INSERT #6-32	9009601-00	6
4	SCR. PHL HD PAN #6-32 X.38	9006022-01	5
1	FRAME	D-MD-741945-02	4
1	11/03-L FRONT PANEL	D-VA-5412985-00	3
4	NUT, KEYS	9006553-00	2
1	BEZEL 5-1/4"	E-MD-7415313-03	1

THIRD ANGLE PROJECTION		QUANTITY & VARIATION		DESCRIPTION		DATE	NO.	ITEM NO.
REMOVE BURRS AND BREAK SHARP CORNERS		DO NOT SCALE DWG		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TITLE		
MATERIAL SEE PARTS LIST		SCALE 1/2		SHEET 1 OF 1		BEZEL ASSY		
FINISH		EVA BAI-N-0		SIZE CODE		NUMBER		REV
				D AD		7013949-0-0		A



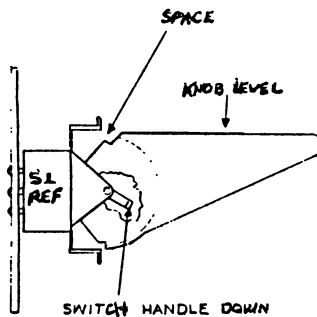
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REFERENCE DESIGNATION CHART	
ACTUAL REF. DESIGN.	SUPERFICIAL REF. DESIGN.
E1	E101
E2	E102
E3	E103
E4	E104
S1-S3	S101-S103
C1-C9	C101-C109
D1-D4	D101-D104
R1-R21	R101-R121
J1-J3	J101-J103
W1-W4	W101-W104

SEE NOTE 4

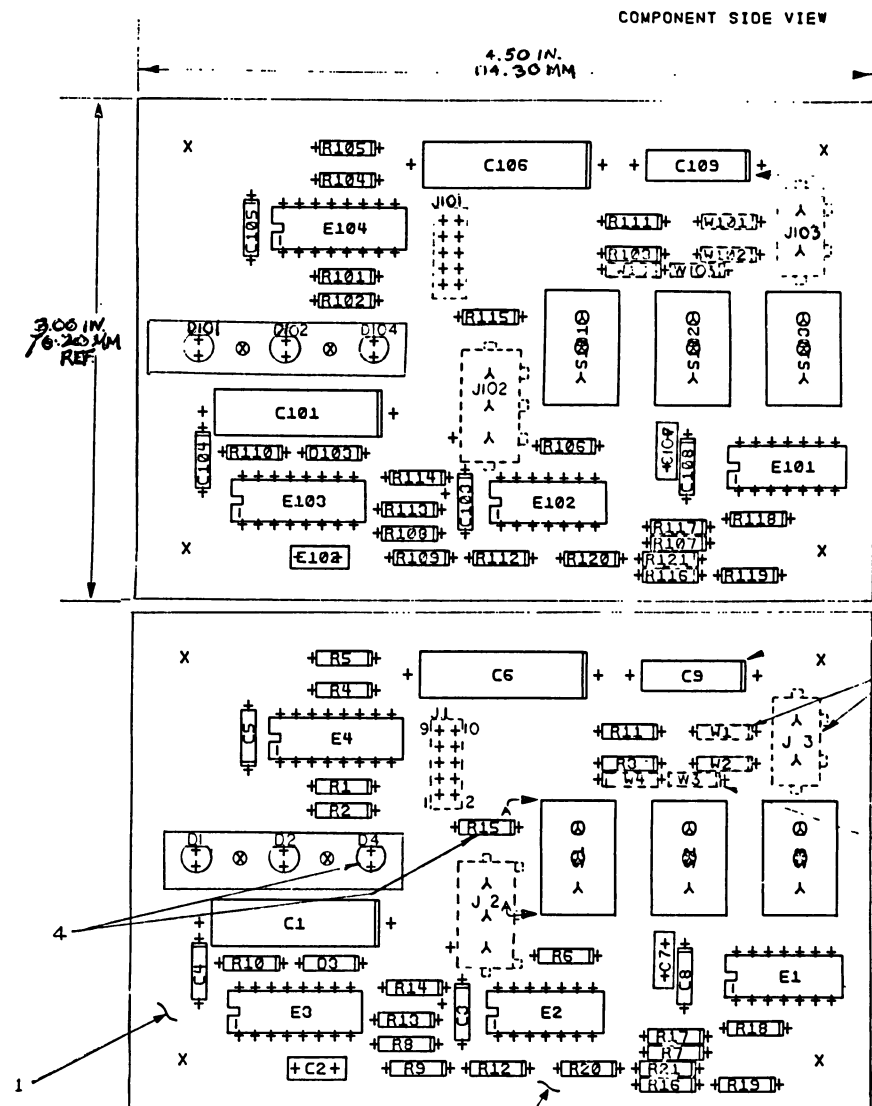
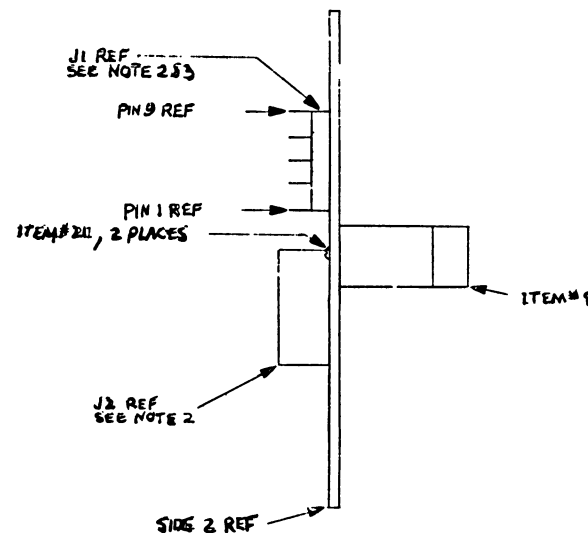
SEE NOTE 4

SEE NOTE 2 & 4



SECTION A-A

NOTE: FOR S1, S2 AND S3 TO BE PROPERLY INSTALLED, SWITCH HANDLE MUST BE DOWN. SWITCH KNOB MUST BE LEVEL AND THERE MUST BE A SPACE AT THE TOP OF THE SWITCH ASSEMBLY.



ACTUAL REF DESIGNATION

NOTE: - MULTI-REF DESIGNATIONS ARE USED TO ACCOMMODATE PANEL INSERTION TECHNIQUES. REFER TO CHART FOR CROSS-REFERENCE.

NOTES:  
5 W3 IS A FIELD OPTION AND MUST BE INSERTED ON SIDE 2.

- NOTES:
1. HOLES .045 (+.003 - .004) MAXIMUM ONLY
  2. MOUNT J1, J2, J3, W1, W2 AND W4 ON SIDE 2 AFTER ALL OTHER COMPONENTS HAVE BEEN ASSEMBLED ONTO BOARD AND BOARD HAS BEEN RUN THROUGH WAVE SOLDER.
  3. CUT PIN 4 OF J1 OFF AT BASE OF COMPONENT
  4. DO NOT INSERT W3, C9 OR R18, THESE COMPONENTS ARE CUSTOMER OPTIONS.

CHK	DATE	REV	BY	APP
	11/24/73	0001	B	

ETCH REV. C-02	P.C. DESIGN DATA BASE REV.
----------------	----------------------------

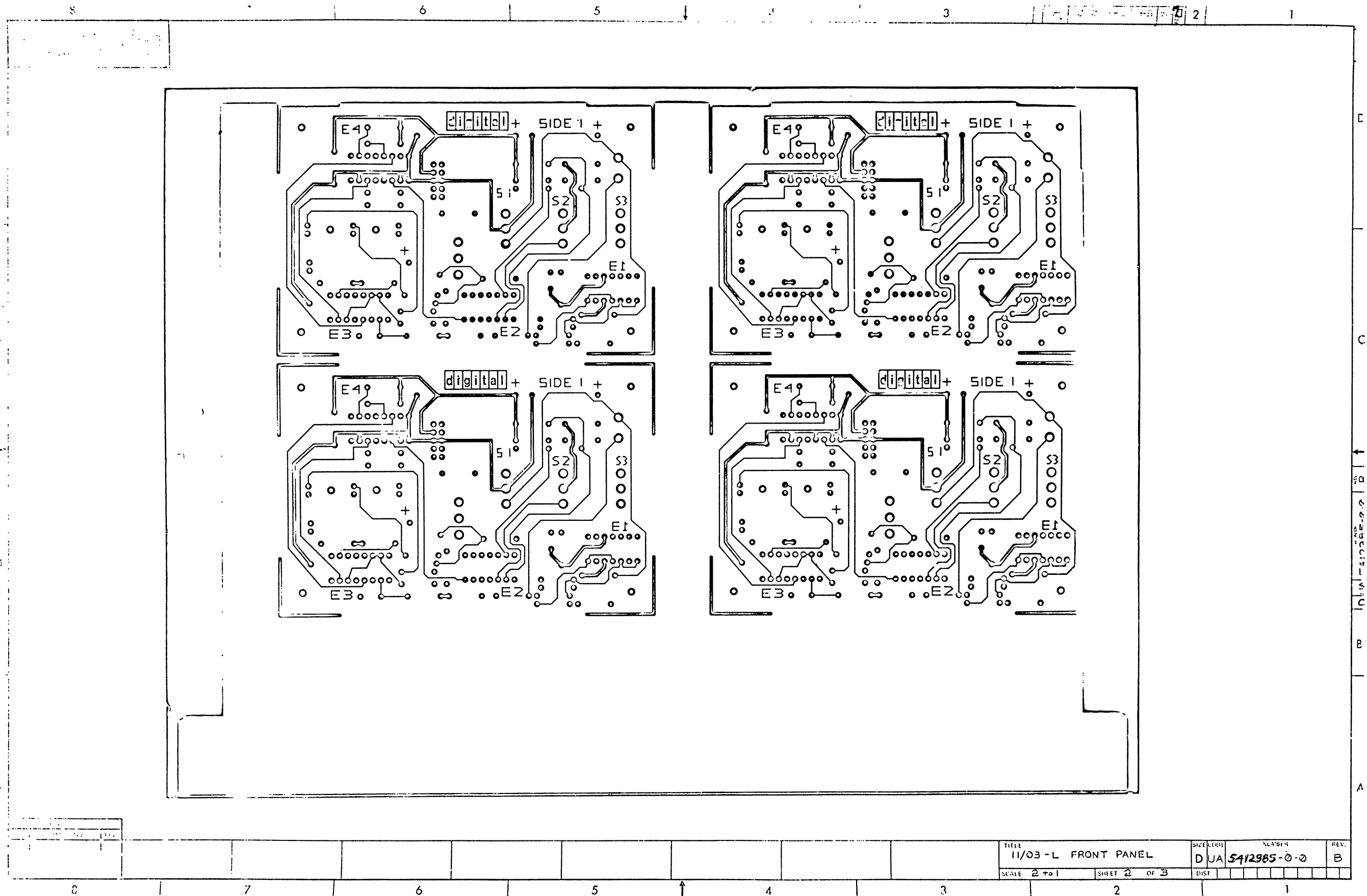
SIGNATURES		DATE	digital	
DRN.	Daniel J. Sullivan	11/24/73		
CHK'D.		11/24/73		
ENG.	Thomas E. Palmer	11/24/73		
PROJ. ENG.	Thomas E. Palmer	11/24/73		
PHOD.		11/24/73		
SCALE	2 to 1			
SHT.	1 OF 3			
NEXT HIGHER ASSY.	B-DD-5412985-0			

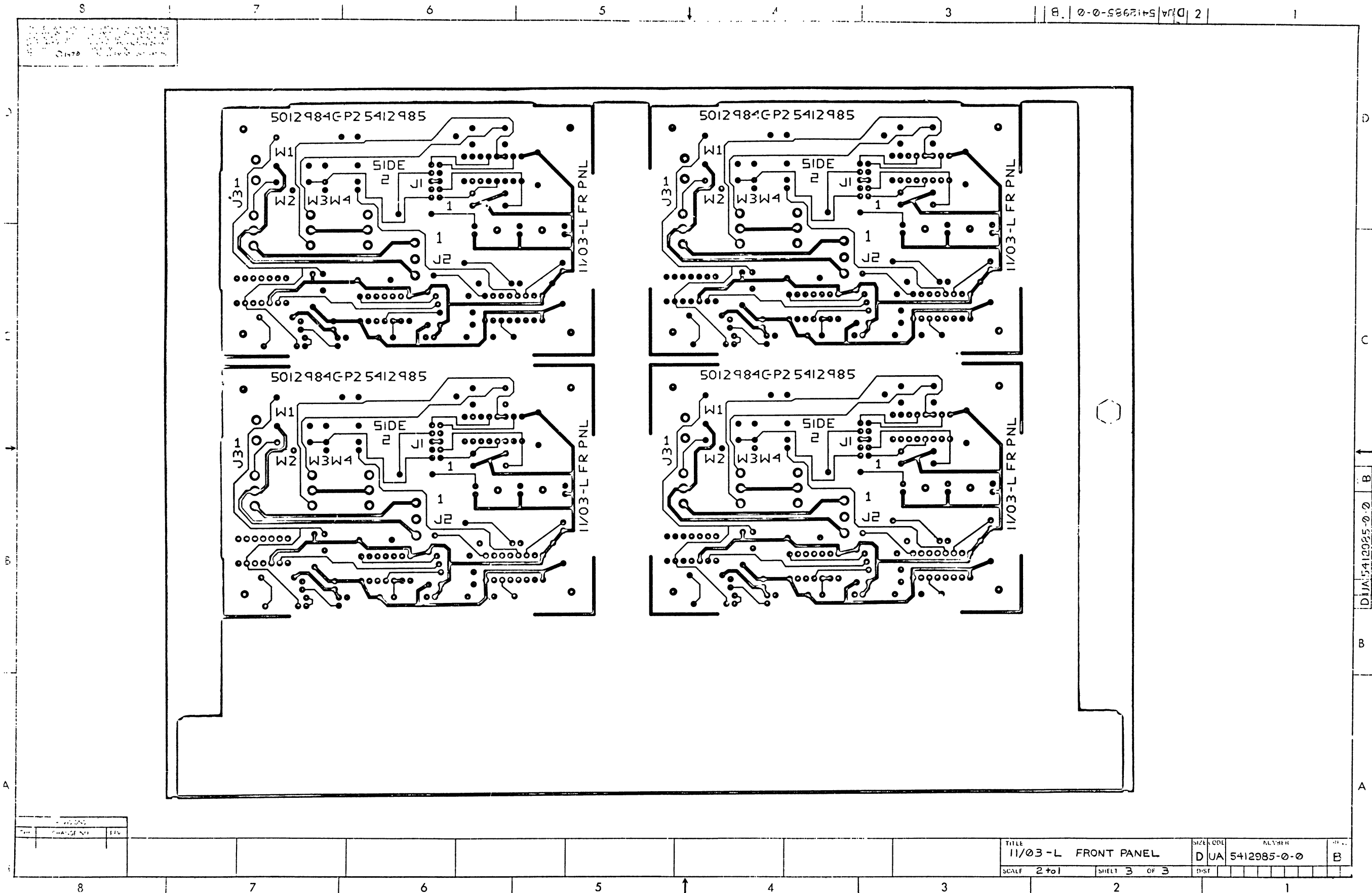
TITLE 11/03-L  
FRONT PANEL

SIZE CODE NUMBER  
0 UA 5412985-0-0

REV  
B

1 MS#





1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

D 1/1A 5412985-0-0

B

A

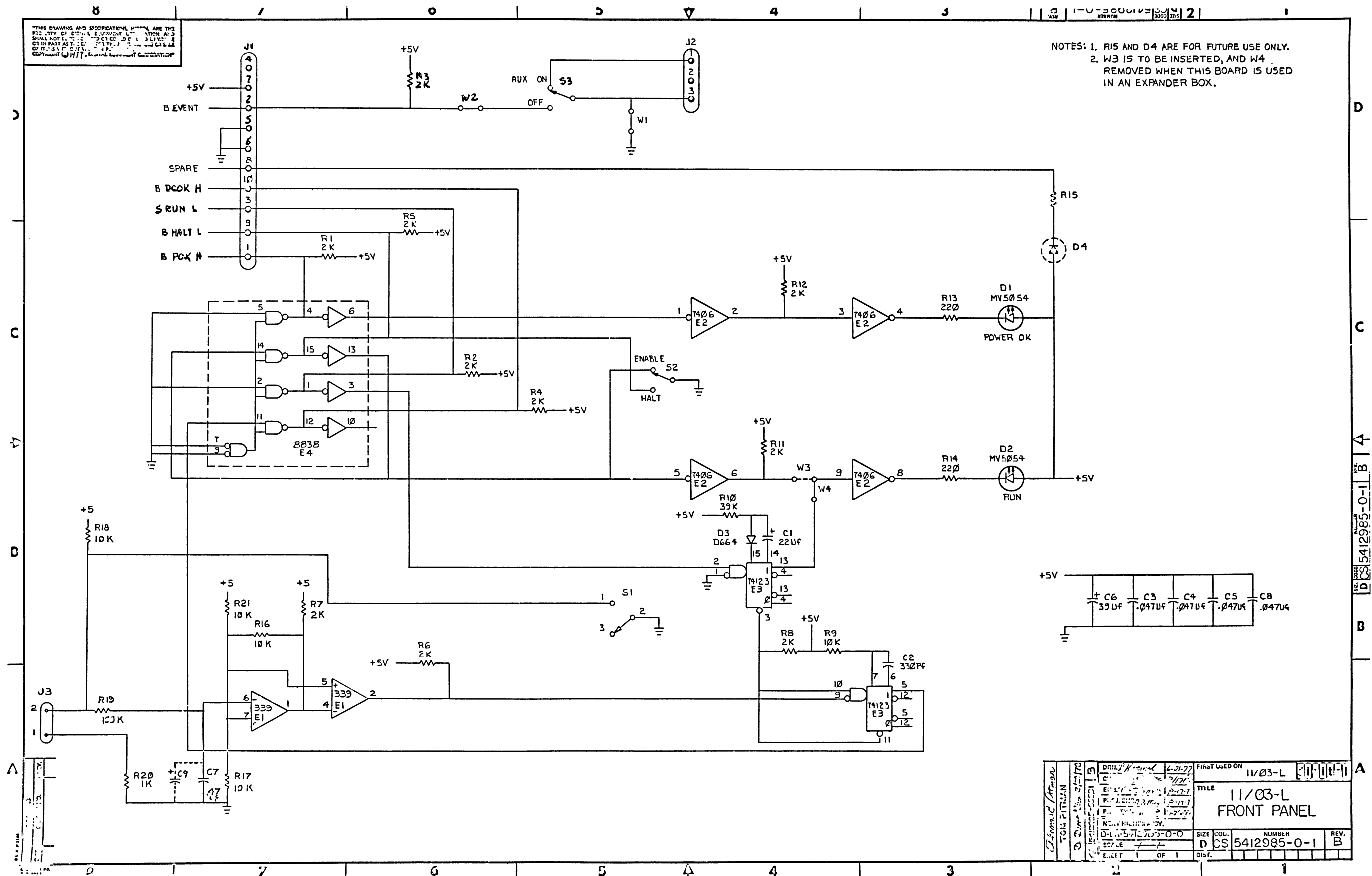
REV	DATE	BY
1	11/03	11/03

TITLE		11/03-L FRONT PANEL		SIZE		CODE		ALTERN		REV	
SCALE		2 to 1		SHEET		3 OF 3		DIST		B	

DIGITAL EQUIPMENT CORPORATION PARTS LIST				QUANTITY / VARIATION												NOTES: FOR ADDITIONAL INSERTION DATA SEE D-UA-5412985-0-0			
MADE BY R. KOPPENAL DATE		CHECKED <i>R. Hamilton</i> DATE <i>8/13/77</i>		SECTION 1															
ENG T. Pittman DATE 8-17-77		PROD R. Hamilton DATE 7-26-77		ISSUED SECTION 1															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	5412985-0-0													REF DESIGNATION		
1	D-MD-5012984-0-0	5012984	ETCHED BOARD	1															
2		1002433	CAP., 22 UF, 35V 2Ø TANT	1													C1		
3		1000023	CAP., 33Ø PF, 1ØØV 5% DM	1													C2		
4		1005335	CAP., 39 UF, 2ØV 10% TANT	1													C6		
5		1012784	CAP., .Ø47 UF, 5ØV CER	4													C3, C4, C5, C8		
6		1100114	DIODE, D664	1													D3		
7		1110324-ØØ	DIODE, MV5Ø54	2													D1, D2		
8		1210940-02	HOLDER, TRIPLE, LED	1															
9		1210840-ØØ	SWITCH, TOGGLE, SPDT	2													S2, S3		
10		1210786-ØØ	KNOB, LIGHT GRAY	3															
11		1213488-ØØ	CONNECTOR, 1Ø PIN HOUSING	1													J1		
12		<del>1211342-Ø3</del>	<del>CONNECTOR, 3 PIN (P.C. TYPE)</del>	<del>1</del>													<del>J2</del>		
13		1302388	RES., 2K, 1/4W, 5% CC	10													R1-R8, R11, R12		
14		1302514	RES., 39K, 1/4W, 5% CC	1													R1Ø		
15		1300479	RES., 10K, 1/4W, 5% CC	5													R9, R16, R17, R18, R21		
16		1300271	RES., 22Ø, 1/4W, 5% CC	2													R13, R14		
17		1911117	I.C. 8838	1													E4		
18		1910741	I.C., 74Ø6	1													E2		
19		1910436	I.C., 74123	1													E3		
20		9009185	JUMPER INSULATED	3													W1, W2, W4		
E.C.O. NO. 0001																			
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						SHEET 1 OF 2		INSERTION PARTS LIST DATA BASE REV B											





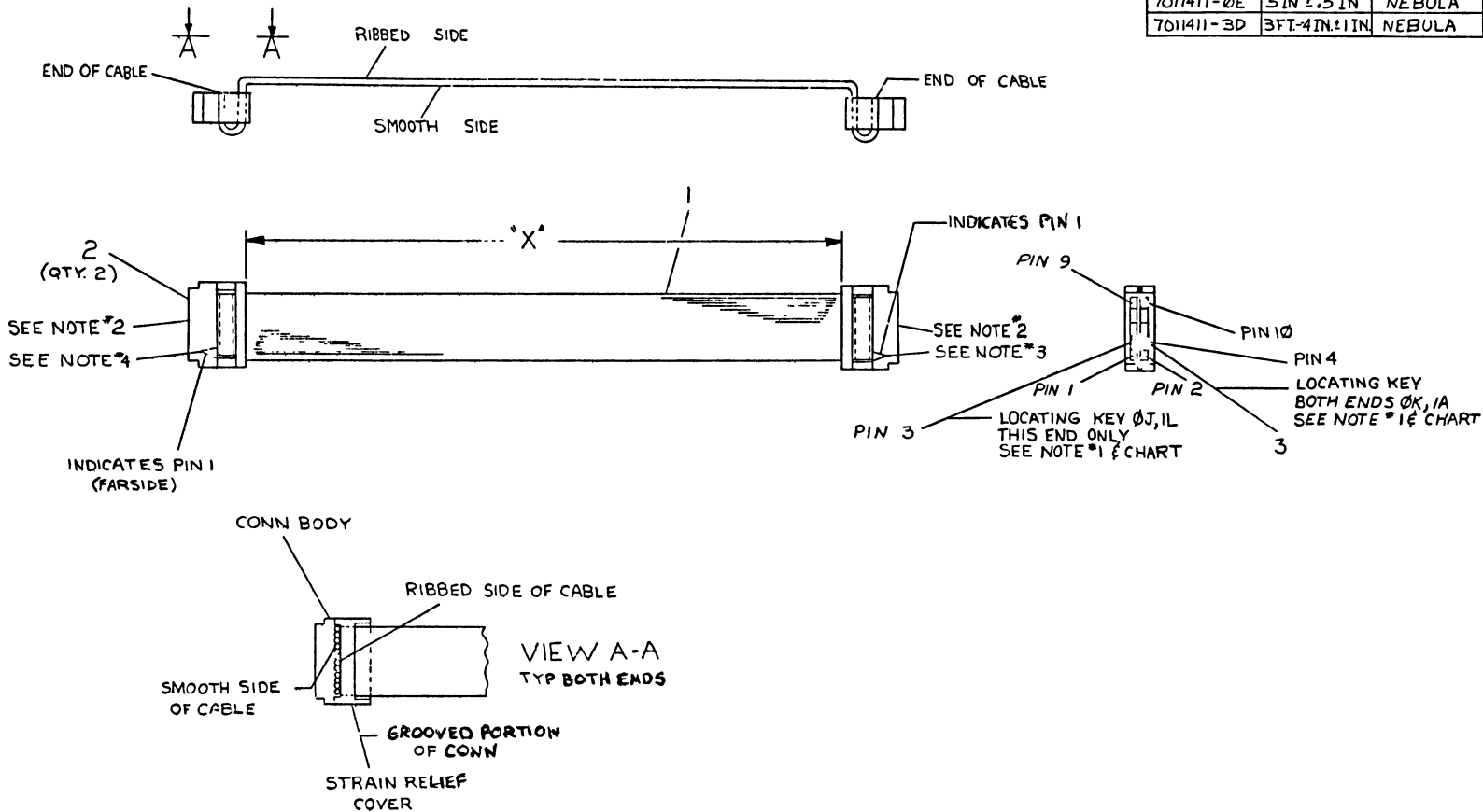


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LEGEND			
NUMBER	DIM. & VARIATION	USED ON	KEY PIN
7011411-0J	8 IN. $\pm$ .5 IN.	BA11-L OR K	10 ONE END
7011411-0K	9 IN. $\pm$ .5 IN.	LS1-11	4 BOTH ENDS
7011411-1D	1 FT. 4 IN. $\pm$ 1 IN.	KY11-LB	
7011411-2D	2 FT. 4 IN. $\pm$ 1 IN.	BA11-F/DOA/PF	10 ONE END
7011411-0H	7 IN. $\pm$ .5 IN.	H75-1,2,3	
7011411-1J	1 FT. 8 IN. $\pm$ 1 IN.	1104/34-TA	
7011411-1L	1 FT. 10 IN. $\pm$ 1 IN.	BA11-L, H777	PIN 3 1 END
7011411-1A	1 FT. 1 IN. $\pm$ 1 IN.	H787	4 BOTH ENDS
7011411-3J	3 FT. 8 IN. $\pm$ 1 IN.	BA11-K, H785	
7011411-2J	2 FT. 0 IN. $\pm$ 1 IN.	BA11-K-H785	NO KEY
7011411-5F	5 FT. 6 IN. $\pm$ 1 IN.	1160	8 ONE END
7011411-12	12 FT. $\pm$ 3 IN.	KA570	
7011411-7	7 FT. $\pm$ 2 IN.	11780	
7011411-1C	1 FT. 3 IN. $\pm$ 1 IN.	VT103	SEE NOTES 3 AND 4
7011411-2	2 FT. $\pm$ 1 IN.	VT103	SEE NOTES 3 AND 4
7011411-0E	5 IN. $\pm$ .5 IN.	NEBULA	10 BOTH ENDS
7011411-3D	3 FT. 4 IN. $\pm$ 1 IN.	NEBULA	5 BOTH ENDS

NOTES:

1. INSERT KEY IN PROPER CONNECTOR PIN AND BREAK OFF TAB.
2. FOR ITEM (2) DRAWING IS SHOWING 3M CONNECTOR.
3. FOR -1C AND -2 VARIATIONS, KEY PIN 6.
4. FOR -1C AND -2 VARIATIONS, KEY PIN 5.



1	TIE, CABLE	9007031	5
1	LABEL, CABLE IDENT.	9009532	4
A/R	KEY	9009707	3
2	CONN. CRIMP	1211206-02	2
A/R	CABLE, 10 CONDUCT	9107747-02	1
DESCRIPTION		DWG./PART NO.	ITEM NO.
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
ANGLES	CLASS OF ACCURACY	OVER 1/2"	1/2" - 1"
SURFACE QUALITY	(CHECK GAGE)	1/2" - 1"	1" - 2"
MEDIUM	PREFERRED	1/2" - 1"	1" - 2"
THIRD ANGLE PROJECTION			
REMOVE BURRS AND BREAK SHARP CORNERS			
DO NOT SCALE DWG			
MATERIAL SEE PARTS LIST			
FINISH			
TITLE		SIZE	CODE
CABLE CONSOLE BACKPLANE		D	1A
FIRST USED ON		NUMBER	REV.
SEE LEGEND		7011411-0-0	S

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SECTION A-A  
SCALE: 2/1  
TYP 2" B HOLES

12.14 REF

5.03 REF

.56 REF

8 (QTY 2)

9 (QTY 2)

1 REF

2

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QTY	DESCRIPTION	ITEM NO.
4	L. WASHER #8	9006634-00
2	RETAINER 1/4 TURN	9006200-00
2	FASTENER 1/4 TURN	9006343-00
4	WASHER FLAT #8	9006660-00
4	SCREW, PAN HD. #8-32 X 3/8	9006037-01
3	WASHER, FLAT #6, .032 THK	9006553-00
3	KEP NUT #6-32	9006560-00
2	STRAIN RELIEF	6-1A-7418374-0-0
1	WINDOW	6-1A-7418375-0-0
1	DOOR	6-1A-708809-0-0

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

REMOVE UNNECESSARY DIMENSIONS

DO NOT SCALE

SEE PARTS LIST

DATE: 10/1/77

BY: [Signature]

FOR: [Signature]

REVISIONS

1. 10/1/77

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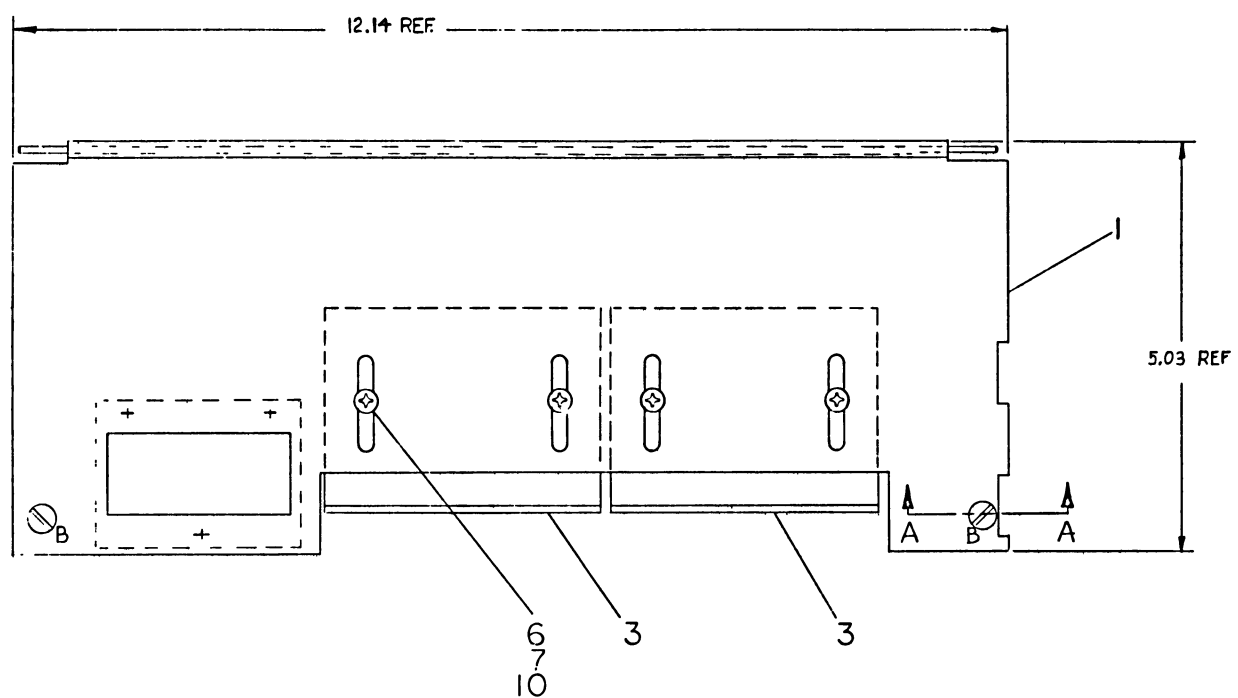
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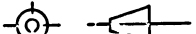
200. 10/1/77

201. 10/1/7



4	1. WASHER #8	9006634 - 08	10
2	2. RETAINER 1/4 TURN	9008200 - 08	9
2	3. FASTENER 1/4 TURN	9008343 - 08	8
4	4. WASHER FLAT #8	9006660 - 08	7
4	5. SCREW, PAN HD. #8-32 X 3/8	9006037 - 01	6
3	6. WASHER, FLAT #6, 0.32 THK	9006663 - 00	5
3	7. KEP NUT #6-32	9008660 - 00	4
2	8. STRAIN RELIEF	C-1A 7418374 - 0-0	3
1	9. WINDOW	C-MD 7418375 - 0-0	2
1	10. DOOR	D-1A 708809 - 0-0	1

[illegible]

		THIRD ANGLE PROJECTION	
REMOVE UNNECESSARY DIMENSION LINES			
DO NOT SCALE			
SEE PARTS LIST			
PART NO. 1		PART NO. 2	
PART NO. 3		PART NO. 4	
PART NO. 5		PART NO. 6	
PART NO. 7		PART NO. 8	
PART NO. 9		PART NO. 10	
PART NO. 11		PART NO. 12	
PART NO. 13		PART NO. 14	
PART NO. 15		PART NO. 16	
PART NO. 17		PART NO. 18	
PART NO. 19		PART NO. 20	
PART NO. 21		PART NO. 22	
PART NO. 23		PART NO. 24	
PART NO. 25		PART NO. 26	
PART NO. 27		PART NO. 28	
PART NO. 29		PART NO. 30	
PART NO. 31		PART NO. 32	
PART NO. 33		PART NO. 34	
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PART NO. 39		PART NO. 40	
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PART NO. 73		PART NO. 74	
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PART NO. 77		PART NO. 78	
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PART NO. 87		PART NO. 88	
PART NO. 89		PART NO. 90	
PART NO. 91		PART NO. 92	
PART NO. 93		PART NO. 94	
PART NO. 95		PART NO. 96	
PART NO. 97		PART NO. 98	
PART NO. 99		PART NO. 100	

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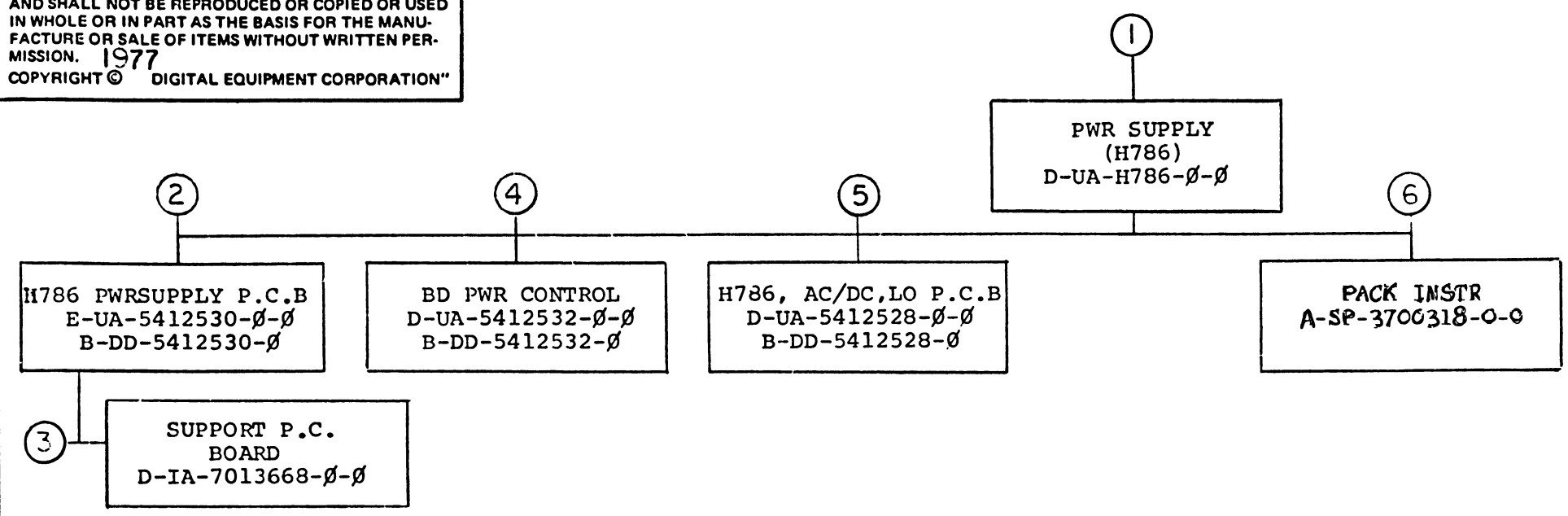
REVISIONS		CHG. NO.	REV.
JA	H786-2		A

USED ON OPTION/MODEL		DRN.	DATE	TITLE	
BATT-N		B. Blodgett	2 MAY 77	H786	
		CHK'D.	DATE	POWER SUPPLY	
		J. Faltruski	2 MAY 77		
		PROJ. ENG.	DATE		
		J. K. High	9 SEP 77		
		PRQD.	DATE		
		K. Hamilton	9 SEP 77		
SHEET 1 OF 3					

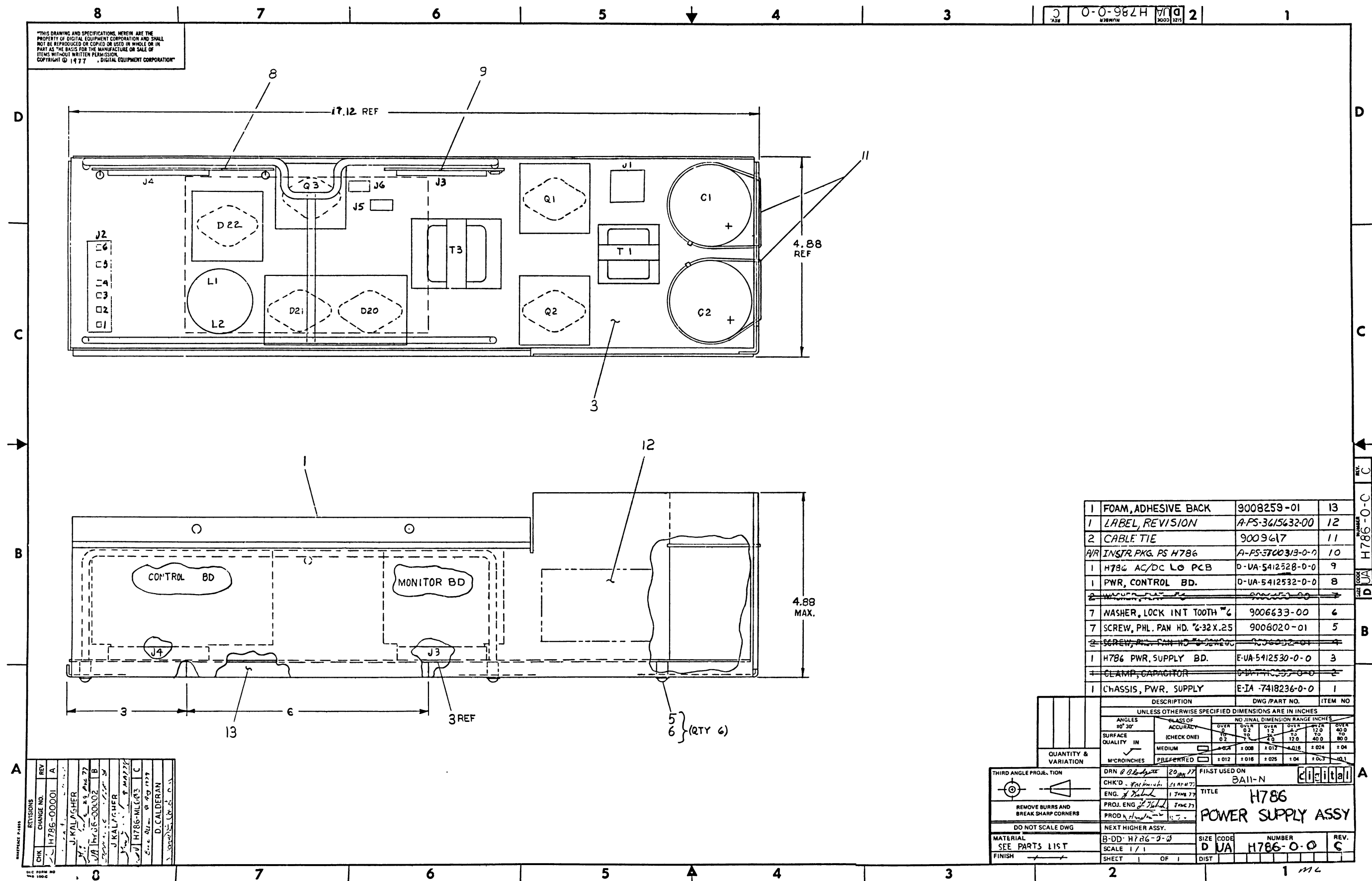
SIZE	CODE	NUMBER	REV
B	DD	H786-0	A
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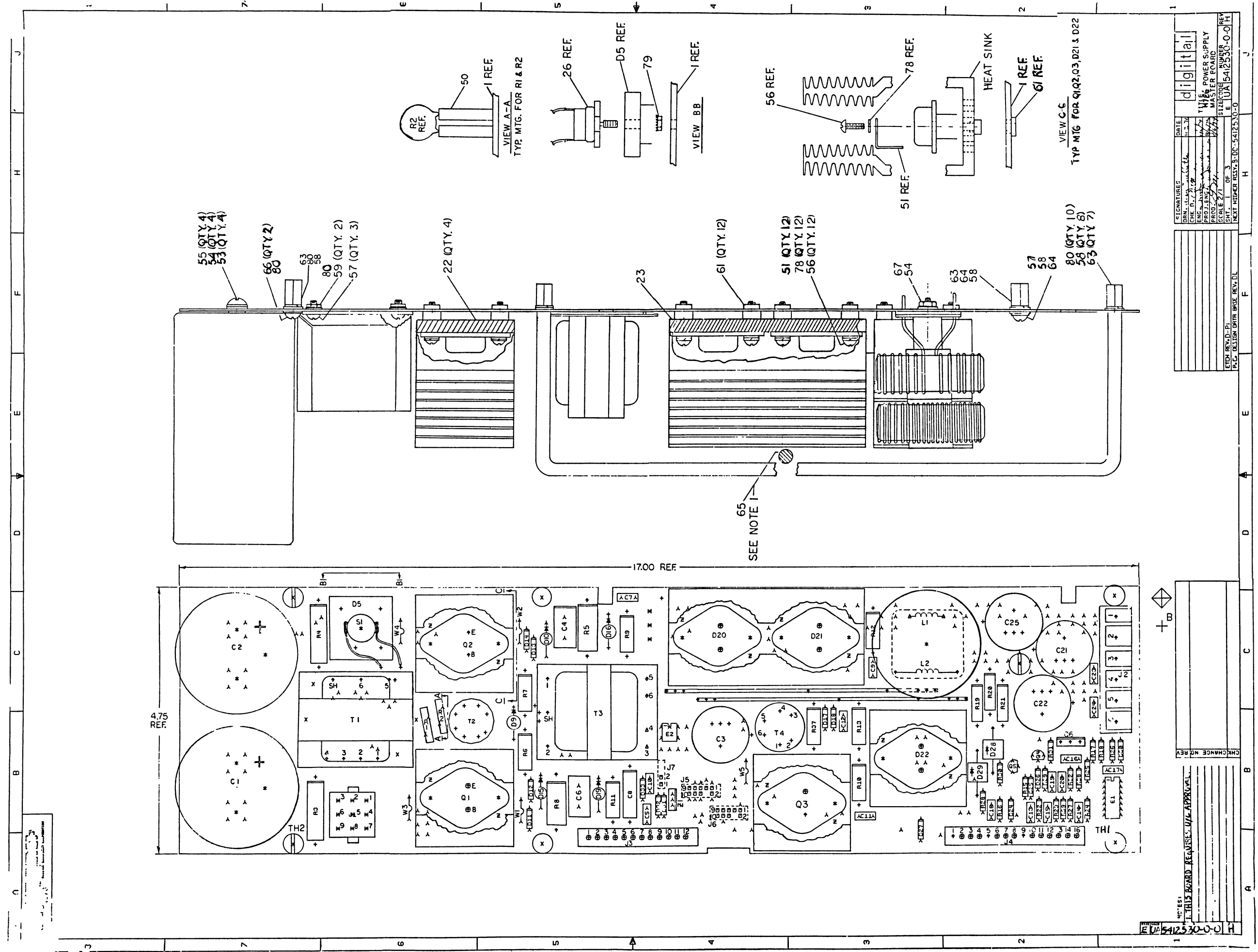












SIGNATURES	DATE
DRN. [Signature]	11/74
CHK. [Signature]	11/74
ENG. [Signature]	11/74
PROJ. [Signature]	11/74
SCALE 1/1	OF 3
STANDARD	100
REV	001

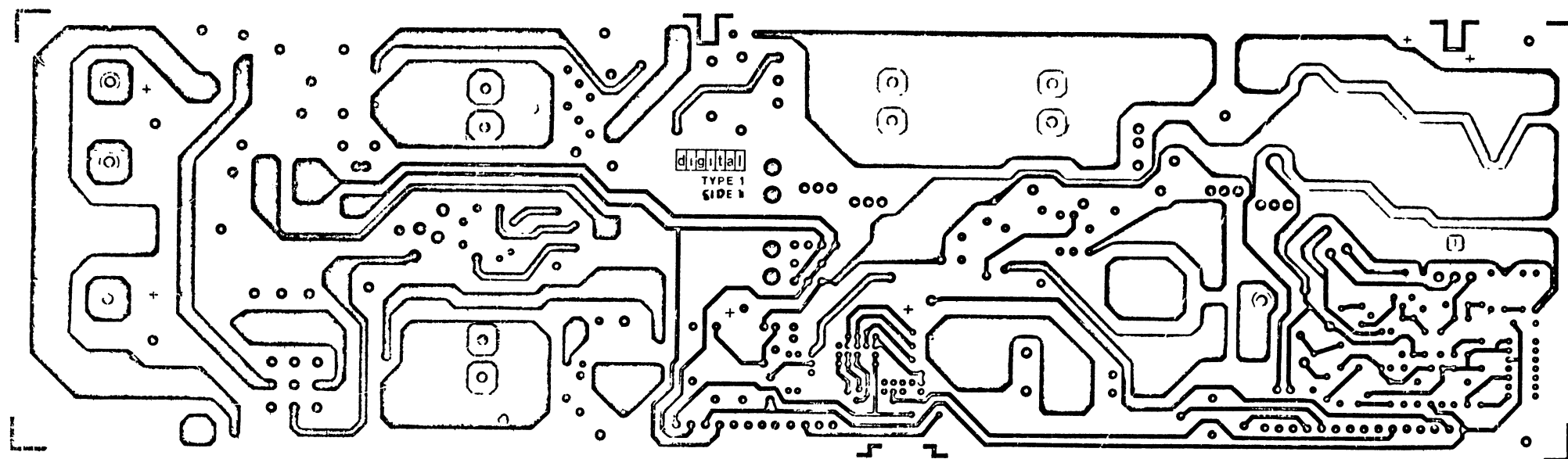
ETCH REV. D-1	REV. D-1
P.L.C. DESIGN DATA BASE	REV. D-1

digital	TYPE POWER SUPPLY
MASTER BOARD	MASTER BOARD
5412530-0-0	5412530-0-0

CHANCE NO. REV.	CHANCE NO. REV.
1	1
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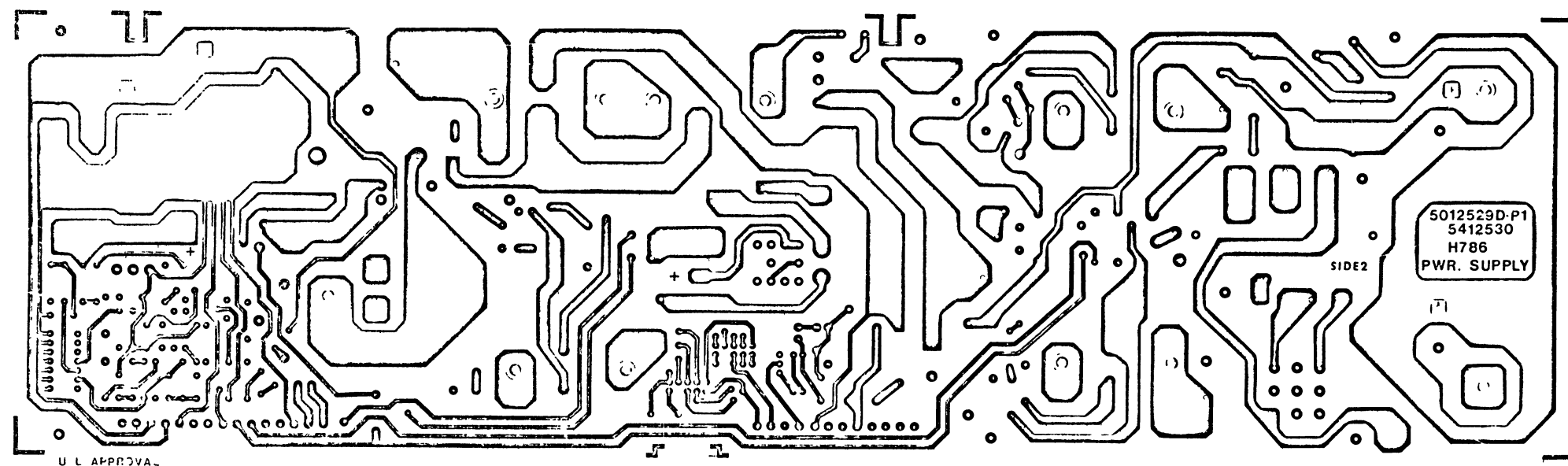
NOTES:	NOTES:
THIS BOARD REQUIRES 1/2" APPROVAL.	THIS BOARD REQUIRES 1/2" APPROVAL.
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H786 POWER SUPPLY  
MASTER BOARD  
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H786 POWER SUPPLY  
MASTER BOARD

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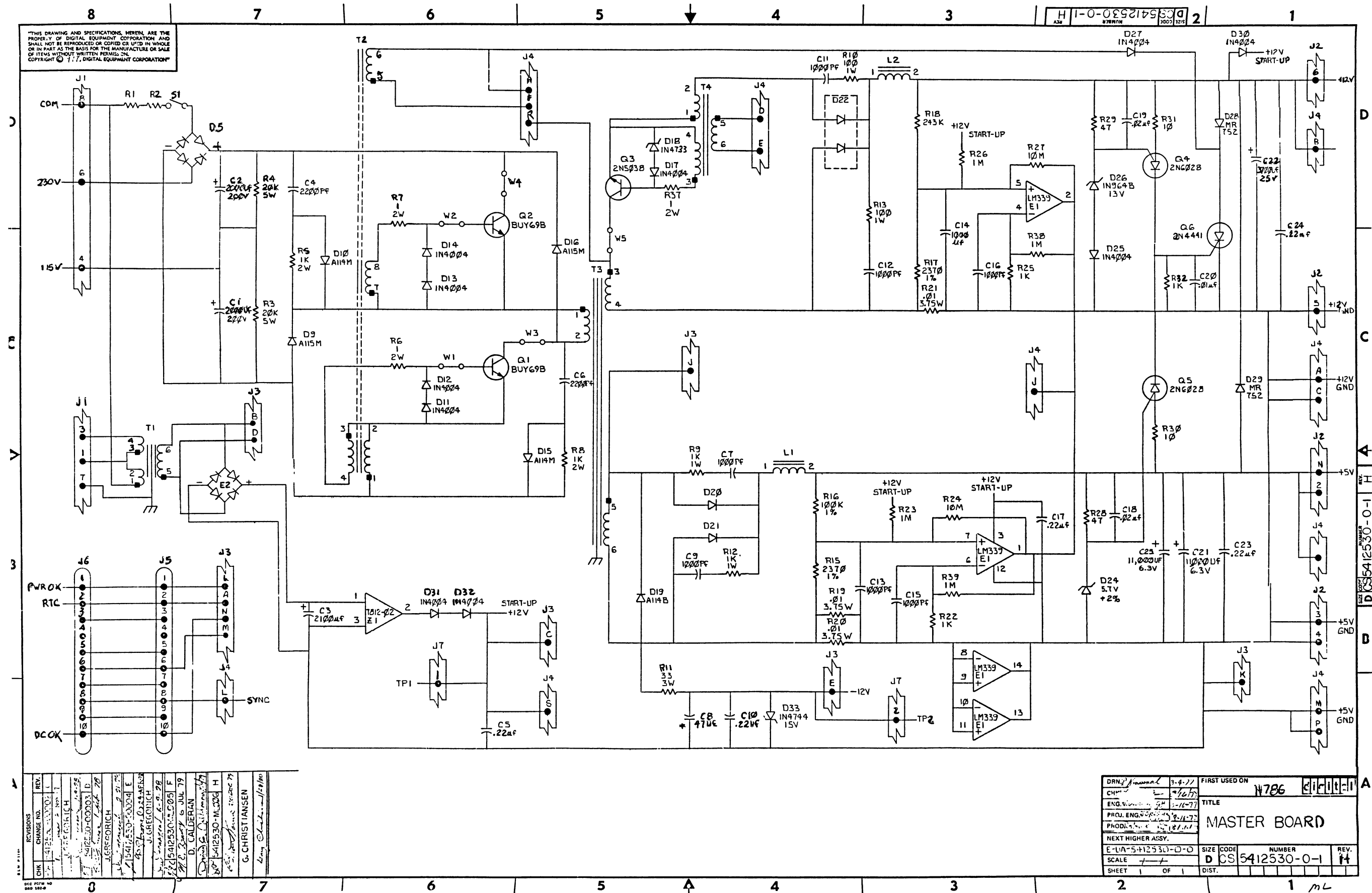


SHEET A2 OF A3

! ! ! ! ! ! ! !	!TITLE	!	!SIZE!	CODE!	DOCUMENT NUMBER	REV
! D ! I ! G ! I ! T ! A ! L !	MASTER BOARD	!SECTION A OF A	!	!	!	!
!	!	!	!	K ! PL	5412530-0-DBP	J

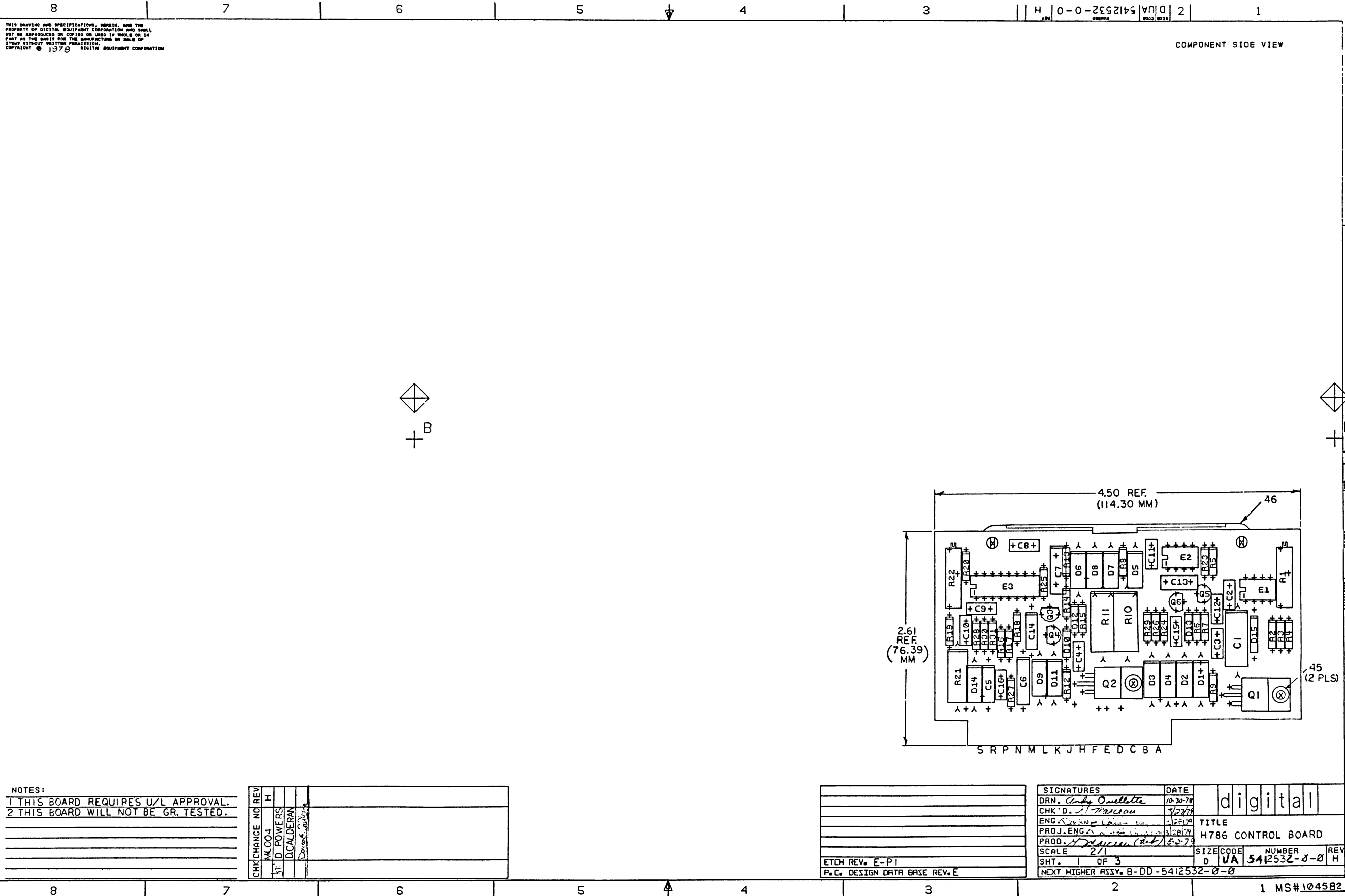
LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
79	79		9006563-00	NUT,KEP , 8-32 X11/32AF	1	
80	80		9006656-00	WASHER, FLAT, .312 O.D. X .156 I	10	
81	81		1115369-00	VM 18 PIV=100 I=1A	1	E2

D I G I T A L							TITLE		MASTER BOARD		SECTION A OF A		SIZE	CODE	DOCUMENT NUMBER	REV
													K	PL	5412530-0-DBP	J







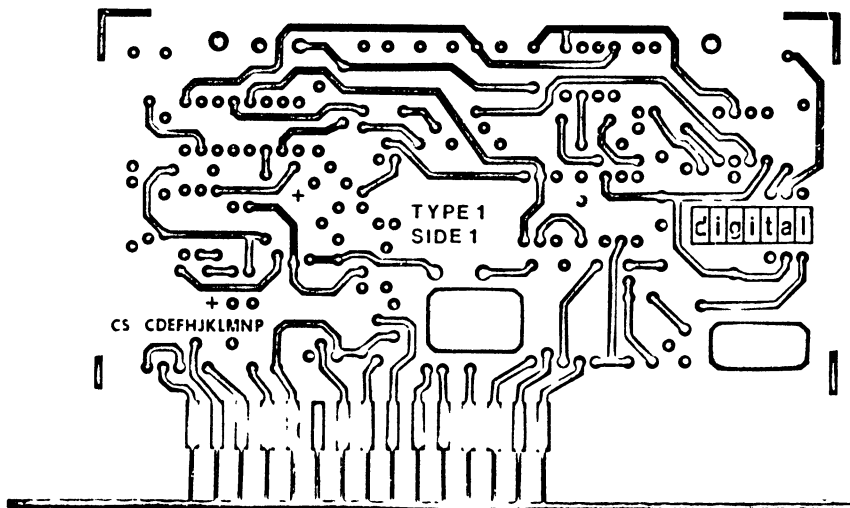




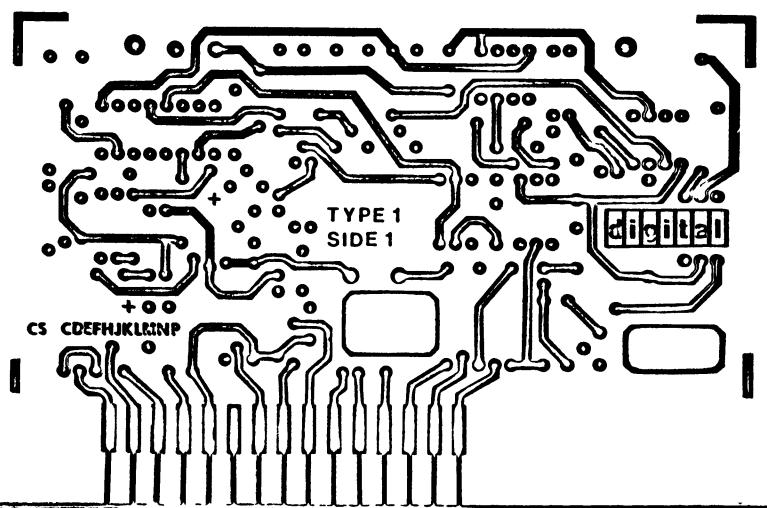
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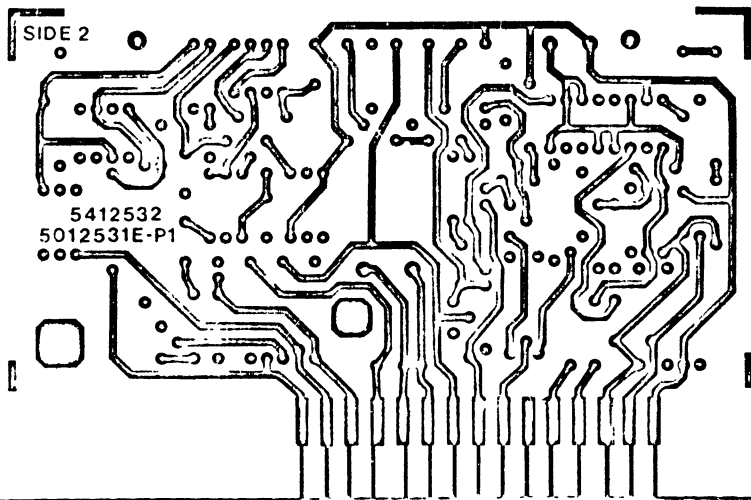
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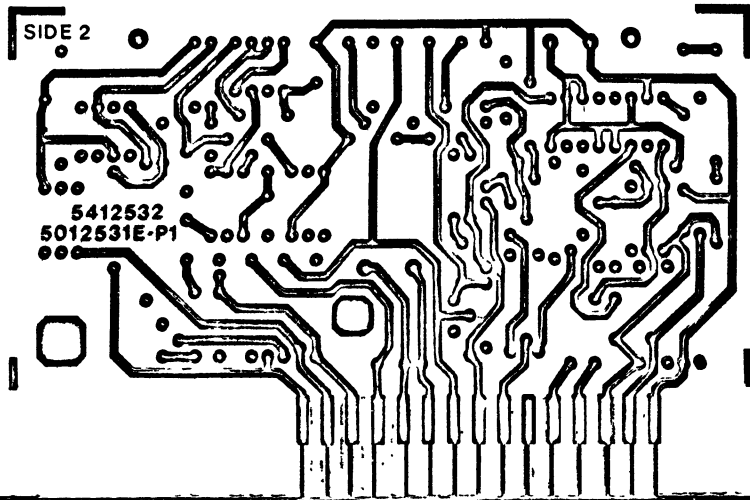
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TITLE  
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SHEET A1 OF A2

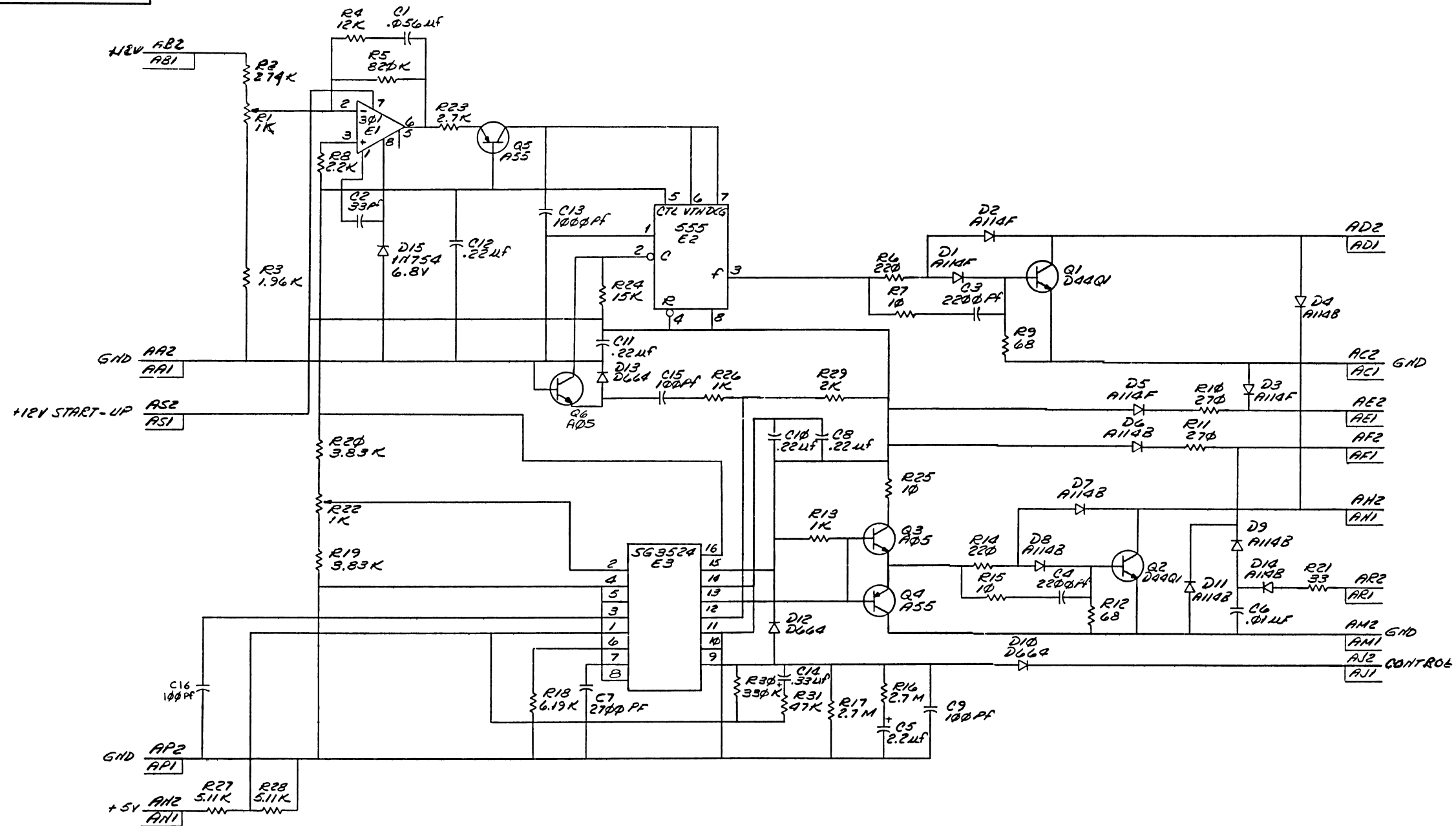
REVISION HISTORY		BASIC PART NO: 5412532		DRN:	R.BUREAU	DATE: 16-FEB-78	D I G I T A L			
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	K.GLEASN	DATE: 16-FEB-78	TITLE PARTS LIST			
P.G	00003	F	SECTION.VARIATION INDEX	CHK'D:	K.GLEASN	DATE: 16-FEB-78	CONTROL BOARD			
---	5412532-ML004	H	[A] 00							
			[B]							
			[C]	DES.ENG:	J. GREGORICH	DATE: 16-FEB-78				
			[D]							
			[E]				DOCUMENT NUMBER			
			[F]	RESP.ENG.:	J.GREGORICH	DATE: 16-FEB-78				
			[G]				SIZE	CODE	NUMBER	REV
			[H]							
			[I]							
			[J]							
			[K]	MFG.ENG.:	R.HAMILTON	DATE: 16-FEB-78	K	PL	5412532-0-DBP	H
			[L]							
			[M]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:		EDIT #	
			[N]	D-UA-5412532-0-0			Z0353H.PLS		7	

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LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
31	31		1300496-00	15 K 1/4W 5% CC	1	R24
32	32		1304854-00	5.11 K 1/4W 1% RN55D-F 100PPM	2	R27,R28
33	33		1302388-00	2 K 1/4W 5% CC	1	R29
34	34		1302091-00	330 K 1/4W 5% CC	1	R30
35	35		1302177-00	47 K 1/4W 5% CC	1	R31
36	36		1514271-00	0 44Q1 NPN 4WC SI125 20	2	Q1,Q2
37	37		1510705-00	XA 05 NPN 500MW SI 60 50 P	2	Q3,Q6
38	38		1510706-00	XA 55 PNP 500MW SI 60 50 P	2	Q4,Q5
39	39		1910282-00	301AN OP AMP	1	E1
40	40		1911944-00	555CN TIMER,FUNCT.BLOCK	1	E2
41	41		1914250-00	3524 MODULATOR-REGULATING	1	E3
42	42		9009000-00	*** THIS ITEM IS NOT USED ***	-	
43	43		1014170-00	2700.0 MMF 100V 1% 70PPM	1	C7
44	44		7418695-00	*** THIS ITEM IS NOT USED ***	-	
45	45		9006732-00	EYELET, ROLLED FLANGE, .121 OD X	2	
46	46		1215993-00	RETAINER, CARD	1	

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							CONTROL BOARD		K	PL	5412532-0-DBP	H

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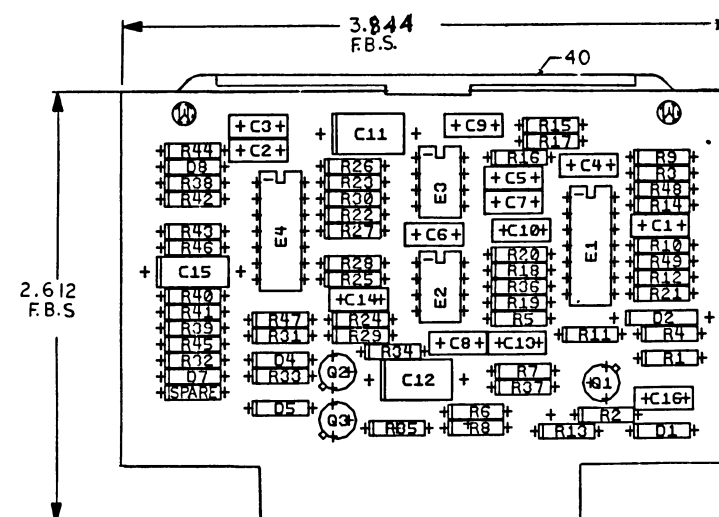
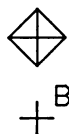
REV.	CHANGE NO.	DATE	BY	CHK
1	1	8-1-77	J. G. H. H.	
2	2	8-1-77	J. G. H. H.	
3	3	8-1-77	J. G. H. H.	
4	4	8-1-77	J. G. H. H.	
5	5	8-1-77	J. G. H. H.	
6	6	8-1-77	J. G. H. H.	
7	7	8-1-77	J. G. H. H.	
8	8	8-1-77	J. G. H. H.	

DRN	5412532-0-1	FIRST USED ON	H786	digital
CHK'D	5412532-0-1	TITLE	CONTROL BOARD	
ENG.	J. G. H. H.	8-1-77		
PROJ. ENG.	J. G. H. H.	8-1-77		
PROD. & MFG.	J. G. H. H.	8-1-77		
NEXT HIGHER ASSY.				
D-5412532-0-0	SIZE	CODE	NUMBER	REV.
SCALE	D	CS	5412532-0-1	E
SHEET	1	OF	1	
DIST				



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COMPONENT SIDE VIEW



NOTES:

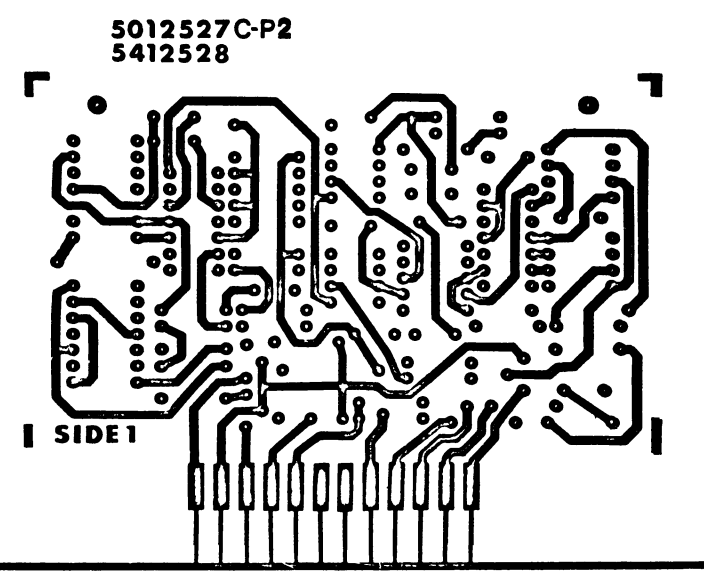
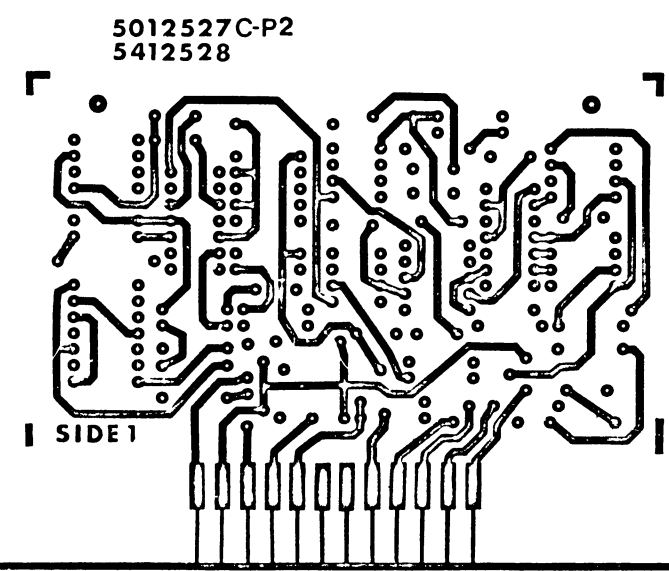
CHK	CHANGE NO	REV
CL	N1002	C
POWER	CALDERAN	10/1/79

ETCH REV. C-P2
Pa.C. DESIGN DATA BASE REV. C

SIGNATURES		DATE	digital		
DRN.D. POWERS		4-20-79			
CHK'D. <i>[Signature]</i>		5-1-79			
ENG. <i>[Signature]</i>		5-1-79			
PROJ. ENG. <i>[Signature]</i>		5-1-79			
PROD. <i>[Signature]</i>		5-1-79			
SCALE 2/1			TITLE		
			H786		
			POWER MONITOR		
SHT. 1 OF 3		SIZE	CODE	NUMBER	REV
		D	UA	5412528-0-0	C
NEXT HIGHER ASSY. C-DD-5412528-0					



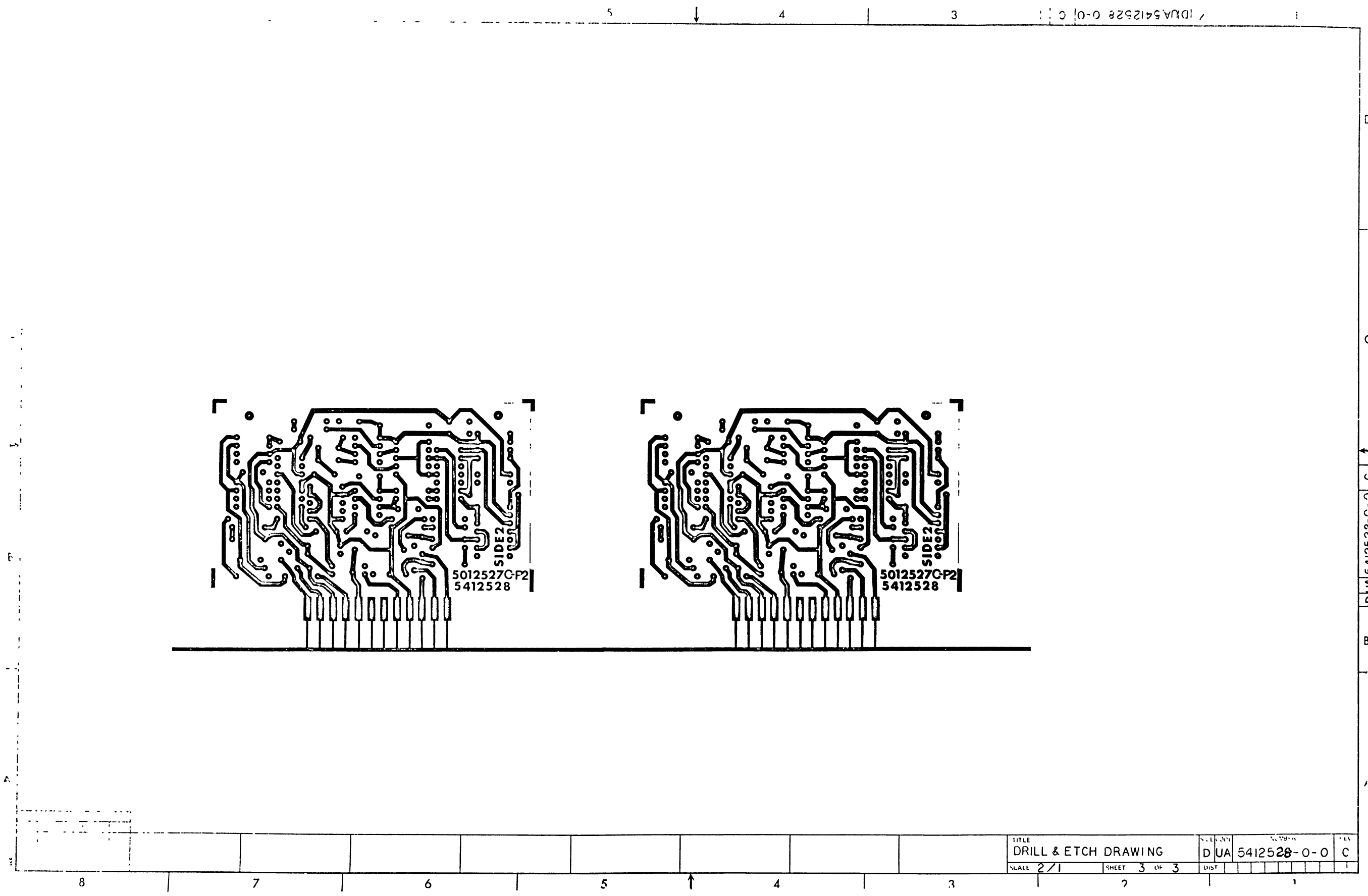
6 5 4 3 2 1 DUA 5412528-0-01 C 11



6 5 4 3 2 1

TITLE						DUA 5412528-0-01 C	
DRILL & ETCH DRAWING						2 OF 3	
SCALE 2:1							

8 7 6 5 4 3 2 1



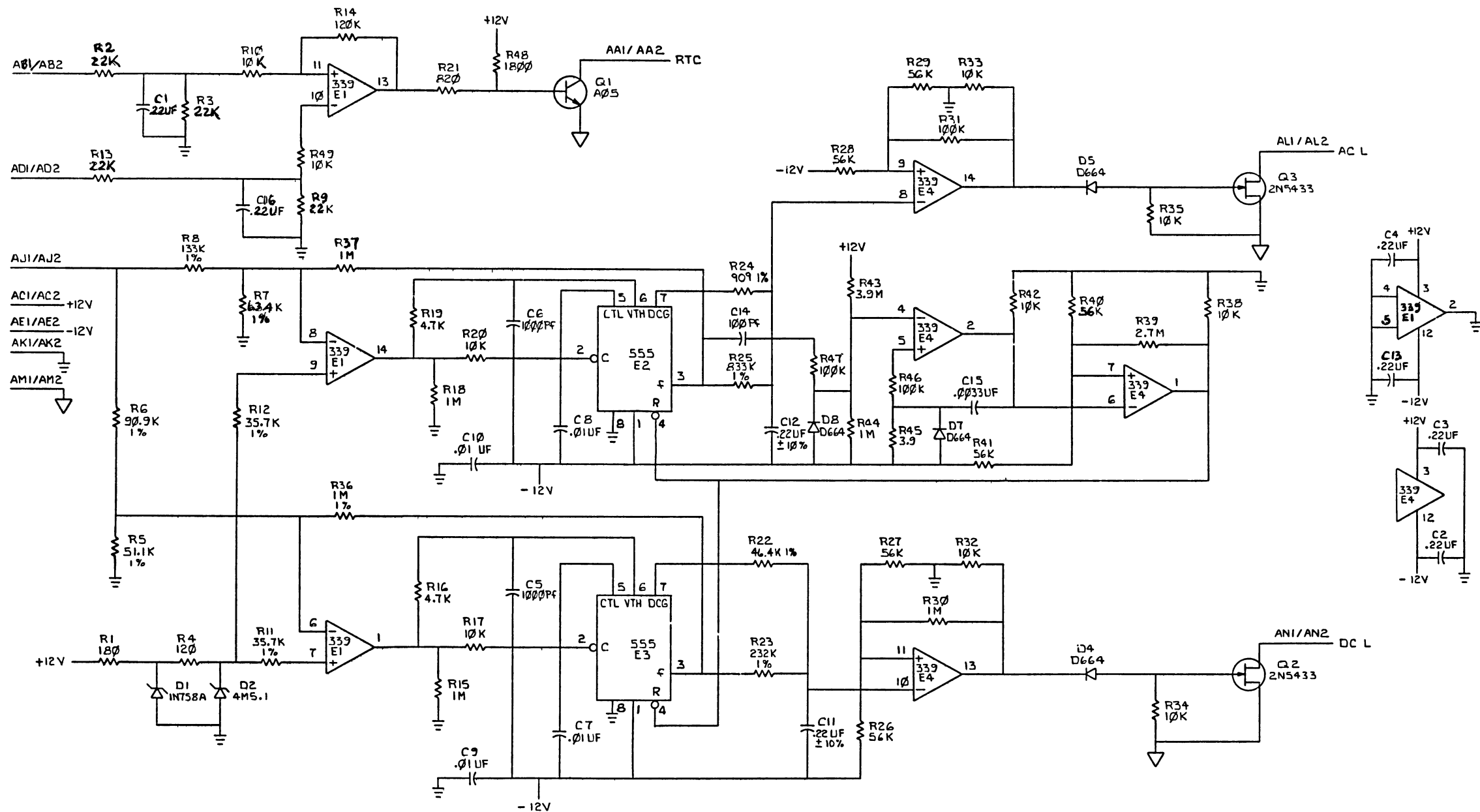
SHEET A1 OF A2

REVISION HISTORY			BASIC PART NO: 5412528			D I G I T A L		
ENG	ECO NUMBER	REV	SECTION A OF A	DRN:	R.KOPPENALL	DATE: 07-MAR-79		
---	5412528-ML002	C	SECTION VARIATION INDEX	CHK'D:	K.GLEEZEN	DATE: 07-MAR-79	TITLE PARTS LIST	
			[A] 00				POWER MONITOR BOARD	
			[B]					
			[C]	DES.ENG:	JIM GREGORICH	DATE: 07-MAR-79		
			[D]					
			[E]				DOCUMENT NUMBER	
			[F]	RESP.ENG.:	JIM GREGORICH	DATE: 07-MAR-79		
			[G]					
			[H]				SIZE	CODE
			[I]				NUMBER	REV
			[J]					
			[K]	MFG.ENG.:	R.HAMILTON	DATE: 07-MAR-79	K	PL
			[L]				5412528-0-DBP	C
			[M]	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:	FILE NAME:	EDIT #
			[N]	D-UA-5412528-0-0			Z0411C.PLS	3
<p>"THIS DRAWING AND SPECIFICATIONS HEREIN, ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION.</p> <p>COPYRIGHT (C) 1979. DIGITAL EQUIPMENT CORPORATION "</p>								

LINE ITEM		DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
30	30		1912108-00	339 VOLT CMPRTR,QUAD	2	E1,E4
31	31		1911944-00	555CN TIMER,FUNCT.BLOCK	2	E2,E3
32	32		1305424-00	232 K 1/4W 1% RN55D-F 100PPM	1	R23
33	33		1314387-00	3.9 M 1/4W 5% CC	2	R43,R45
34	34		1000042-00	1000.0 MMF 100V 5%200PPM DM15S	2	C5,C6
35	35		7418695-00	*** THIS ITEM IS NOT USED ***	-	
36	36		9009000-00	*** THIS ITEM IS NOT USED ***	-	
37	37		9105740-55	*** THIS ITEM IS NOT USED ***	-	
38	38		1303311-00	46.4 K 1/4W 1% RN55D-F 100PPM	1	R22
39	39		1302685-00	909 1/4W 1% RN55D-F 100PPM	1	R24
40	40		1215993-00	RETAINER, CARD	1	

D I G I T A L				TITLE	POWER MONITOR BOARD	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							K	PL	5412528-0-DBP	C

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REV.	CHG.	DATE	BY
1	5412528-0001	8-1-77	B
2	5412528-0002	8-1-77	B
3	5412528-0003	8-1-77	B
4	5412528-0004	8-1-77	B
5	5412528-0005	8-1-77	B
6	5412528-0006	8-1-77	B
7	5412528-0007	8-1-77	B
8	5412528-0008	8-1-77	B
9	5412528-0009	8-1-77	B
10	5412528-0010	8-1-77	B

DRN: 5412528-0001	4-6-77	FIRST USED ON	H786
CHK: 5412528-0001	8-1-77	TITLE	POWER MONITOR BOARD
ENG: 5412528-0001	8-1-77	SIZE	D
PROJ. ENG: 5412528-0001	8-1-77	CODE	CS
PROD. ENG: 5412528-0001	8-1-77	NUMBER	5412528-0-1
NEXT HIGHER ASSY.		REV.	C
D-5412528-0-0		SCALE	
SHEET 1 OF 1		DIST.	

## FIELD MAINTENANCE PRINT SET

## TABLE OF CONTENTS

[illegible]

# Digital Equipment Corporation

# DRAWING DIRECTORY

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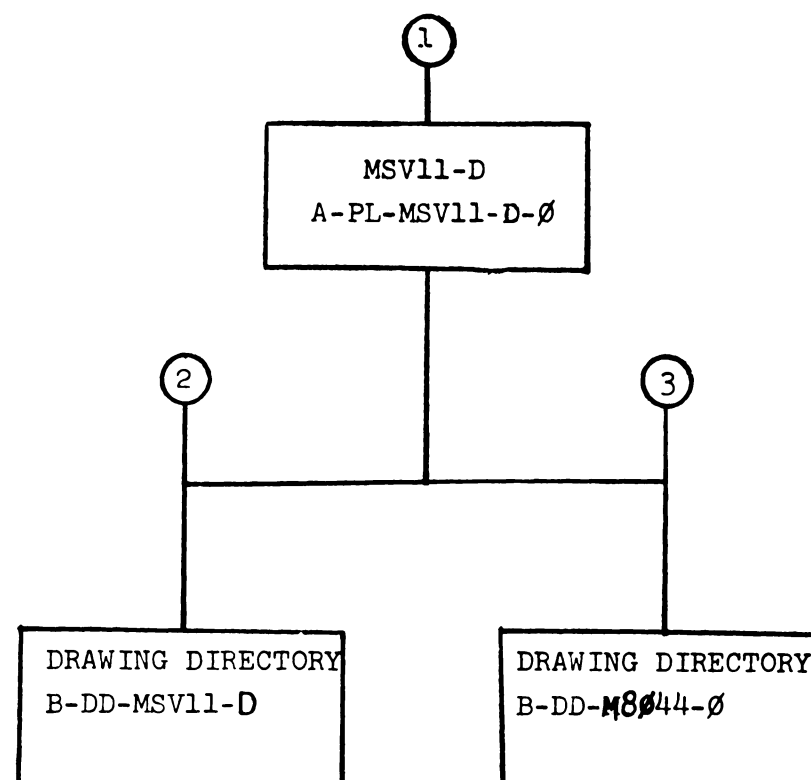
NOTE: FOR FIELD MAINTENANCE PRINT SET  
SEE B-TC-MSV11-D-1

## UNIT VARIATIONS

[illegible]

REVISIONS	CHK	JN	MSV11-D-1	REV.	A								
	CHANGE NO.												
	USED ON OPTION/MODEL			DRN.	DATE	TITLE				digital			
	LSI-11			DEVRIES	15-12-77	DRAWING DIRECTORY				MSV11-D (32K X 16)			
				CHK'D.	DATE	MOS MEMORY SYSTEM							
				R. Given	2-21-78								
				PROJ. ENG.	DATE								
				R. Given	2-21-78								
		PROD.	DATE										
SHEET 1 OF 3		R. Mott	2-21-78										
				SIZE	CODE	NUMBER				REV			
				B	DD	MSV11-D				A			
				DIST.									

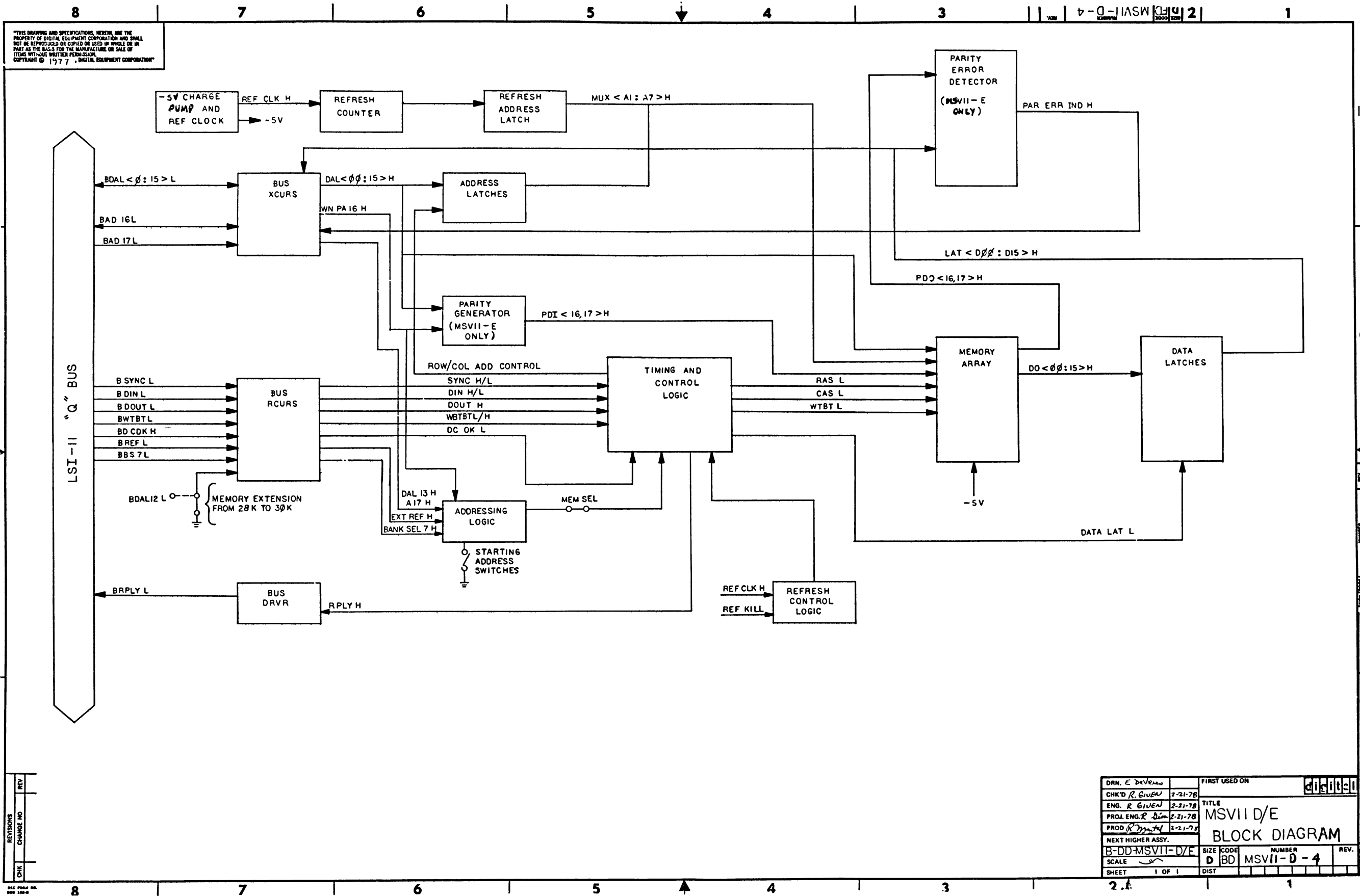
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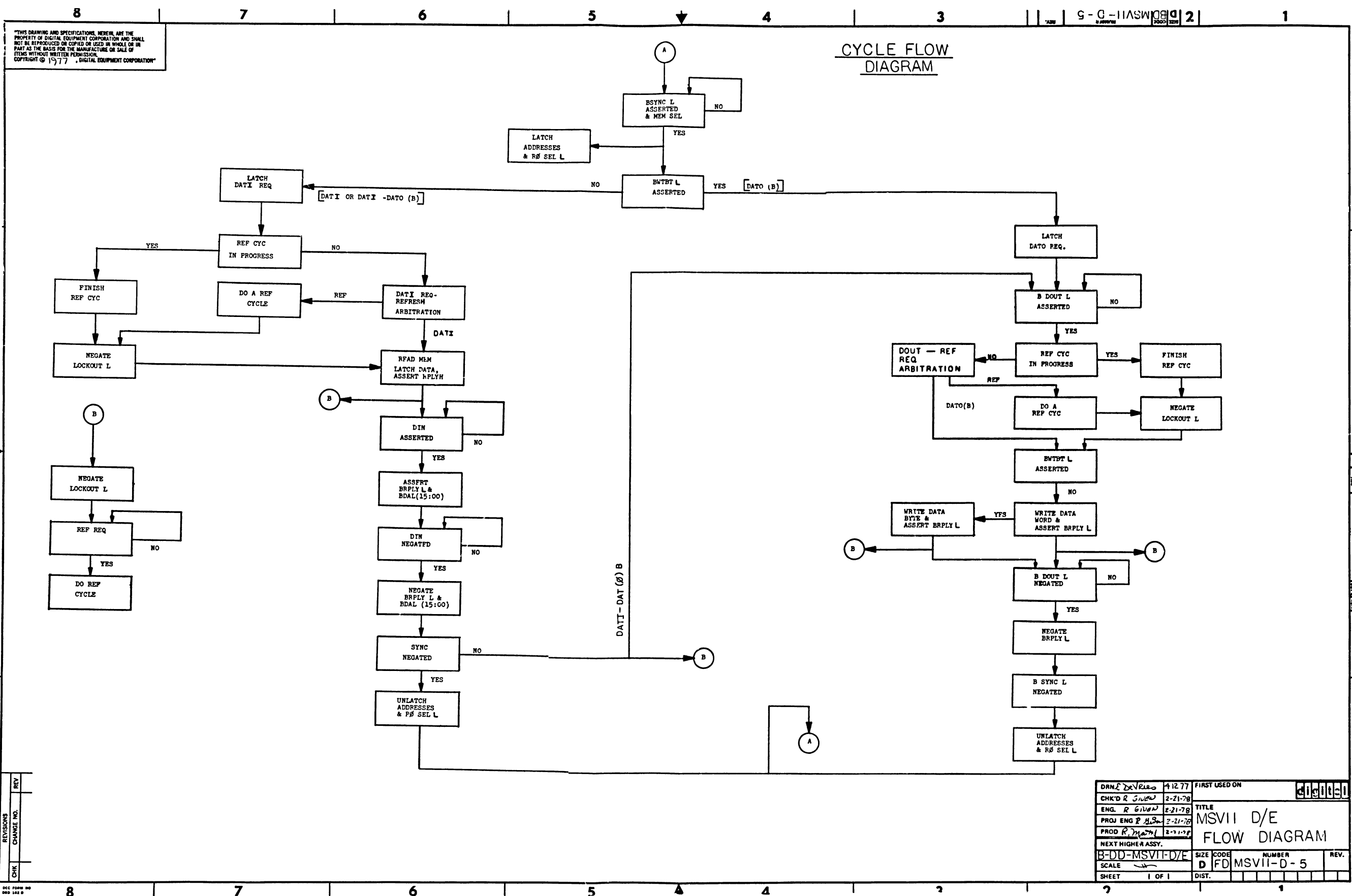


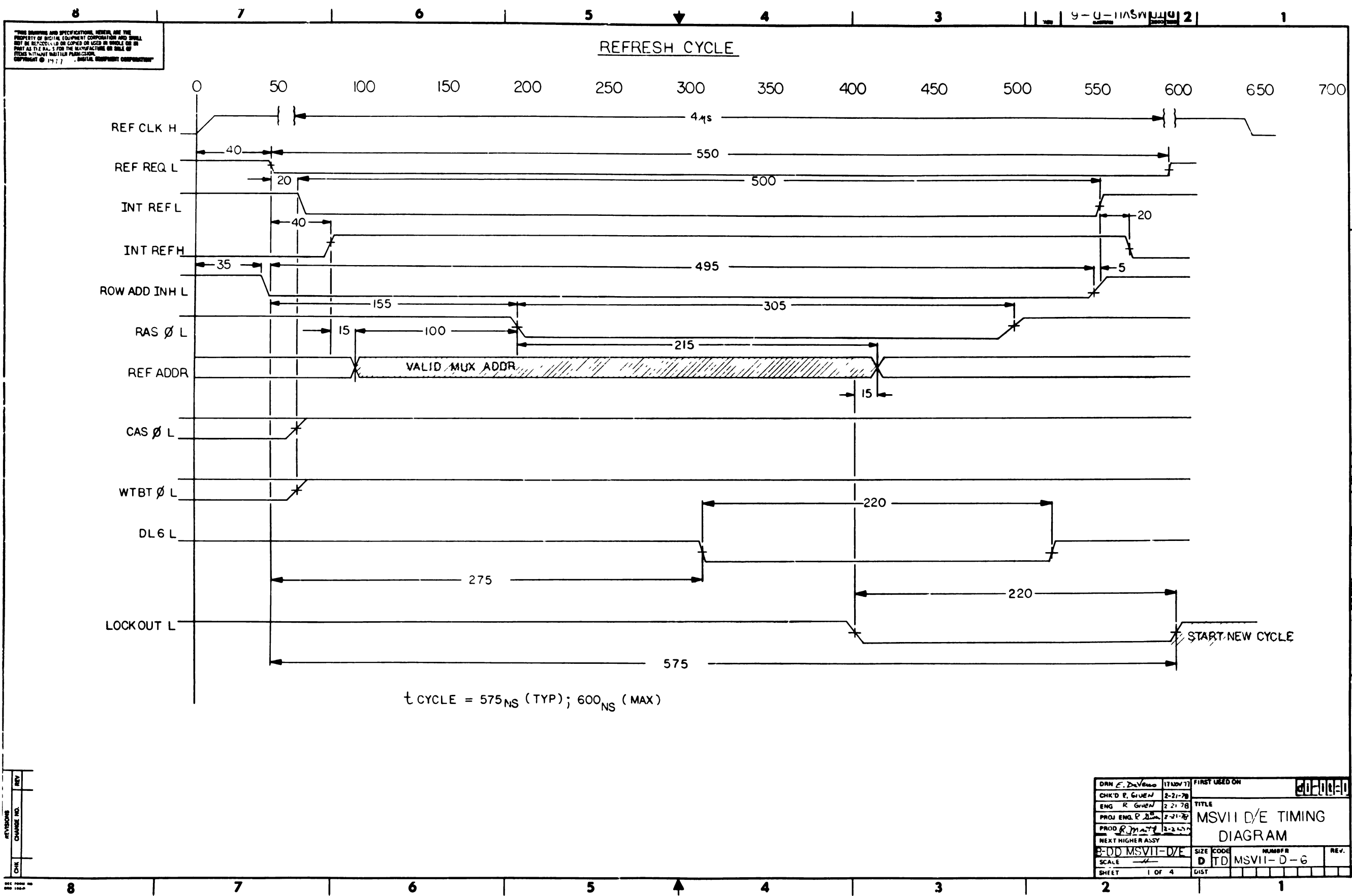


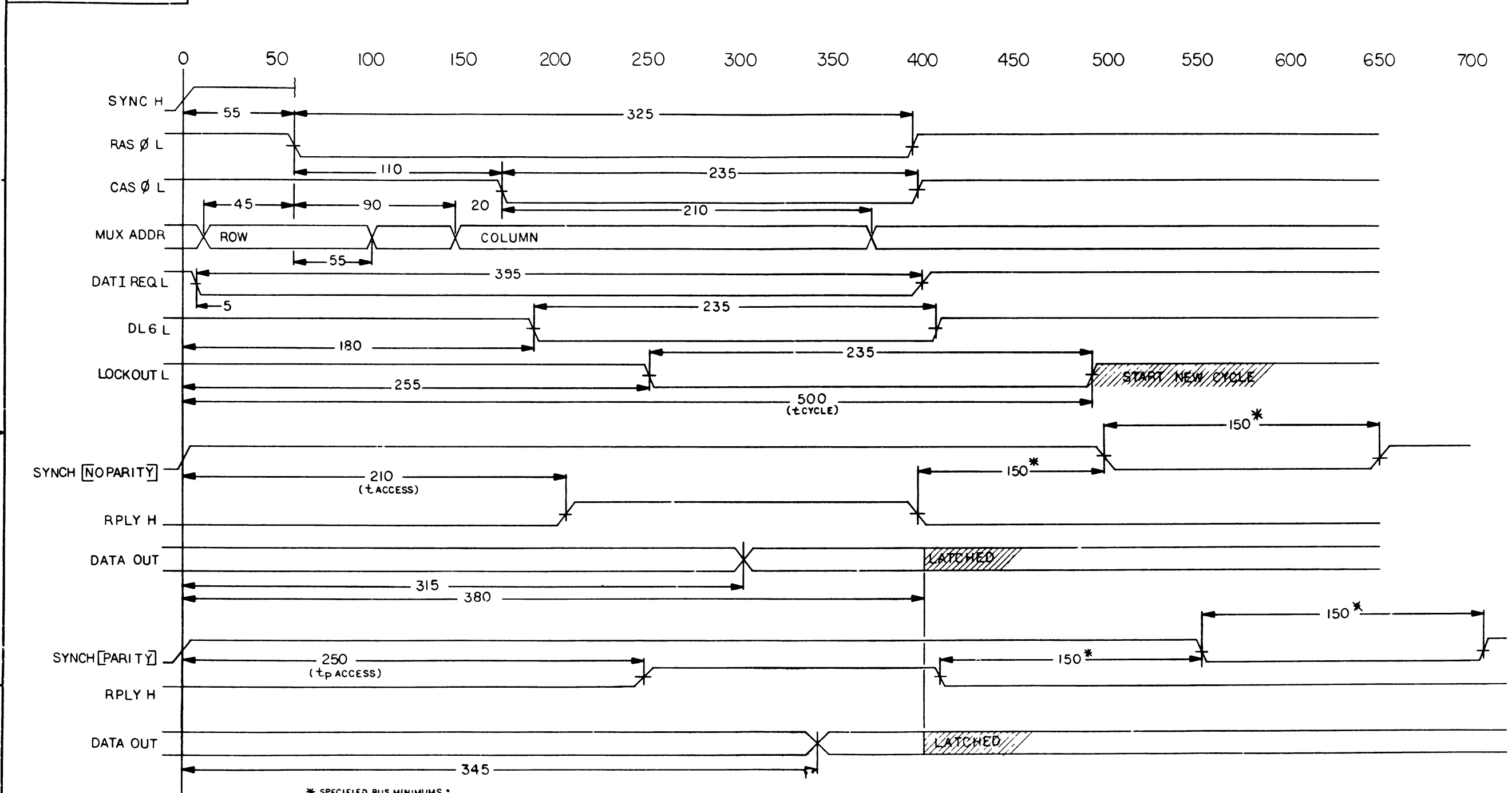




DRN. E. deVries	FIRST USED ON	DIGITAL	
CHK'D R. GIVEN	2-21-78		
ENG. R. GIVEN	2-21-78		
PROJ. ENG. R. GIVEN	2-21-78		
PROD. R. GIVEN	2-21-78		
NEXT HIGHER ASSY.			
B-DD-MSVII-D/E	SIZE CODE	NUMBER	REV.
SCALE	D BD	MSVII-D-4	
SHEET 1 OF 1	DIST		



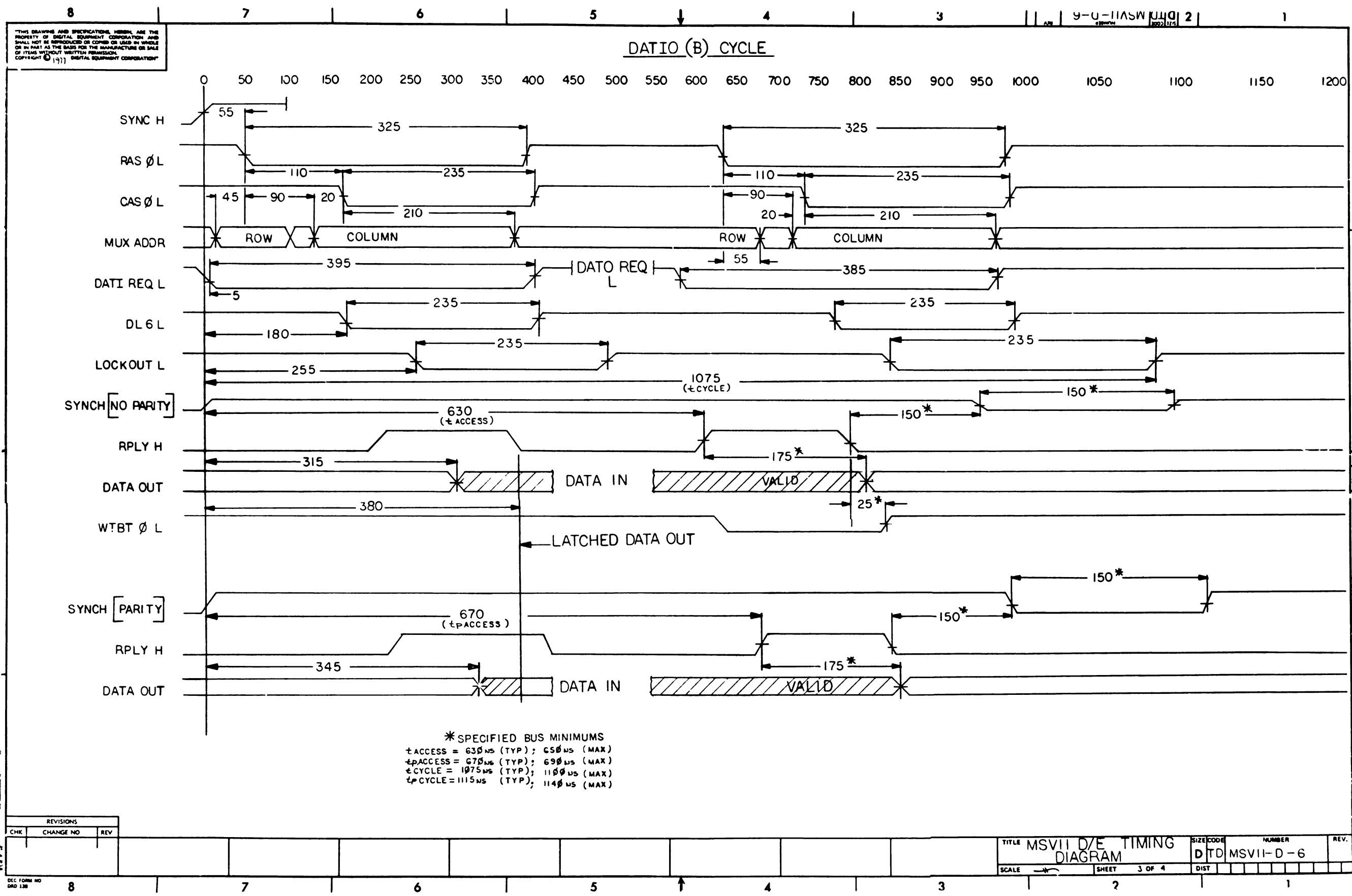


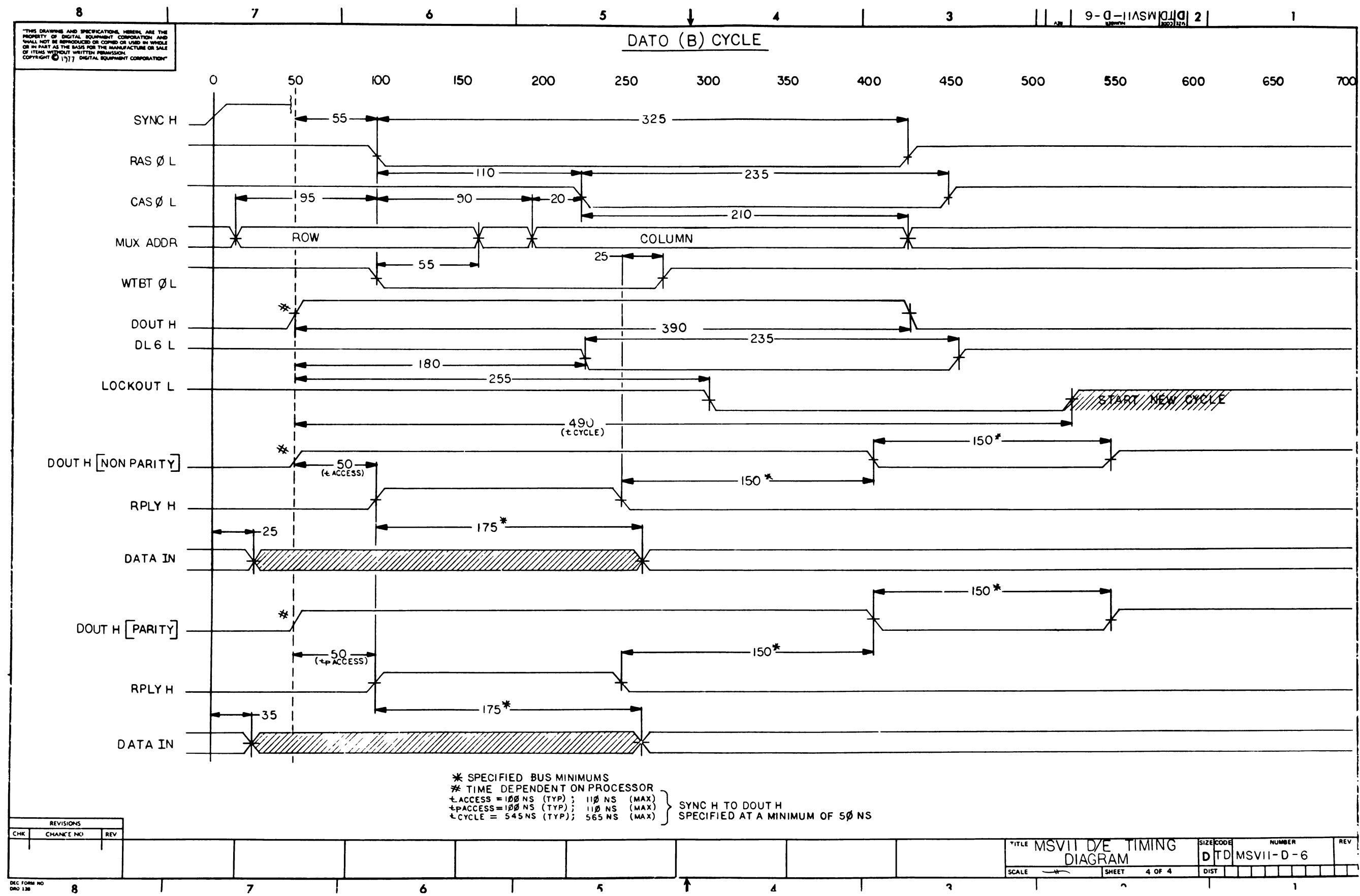


\* SPECIFIED BUS MINIMUMS :

$t_{ACCESS} = 210\text{NS (TYP)}; 225\text{NS (MAX)}$   
 $t_{PACCESS} = 250\text{NS (TYP)}; 265\text{NS (MAX)}$   
 $t_{CYCLE} = 500\text{NS (TYP)}; 520\text{NS (MAX)}$

REVISIONS		
CHK	CHANGE NO	REV







[illegible]



DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-AA* QUANTITY / VARIATION												NOTES:			
MADE BY R. MANION DATE 12/3/77		CHECKED R. Manion DATE 2-21-78		SECTION															
ENG R. Manion DATE 2-21-78		PROD R. Manion DATE 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-AB	M8044-AC	M8044-AD	M8044-AE										REF DESIGNATION		
18		13-14637-00	RES NETWORK (3-22 1/8 W 5%)	4	4	4	4										R1,R2,R7,R8		
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1										R22		
20																			
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	1	1										R12,R13		
22		<del>13-02874-00</del>	<del>RES 147 1/4W 1% MF</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>										<del>R21</del>		
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1										R17		
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2										R14,R15		
25		19-11579-00	DEC I.C. 8641	6	6	6	6										E1,E8,E51,E57,E63,E69		
26		19-11469-00	DEC I.C. 8640	2	2	2	2										E13,E22		
27		19-11944-00	DEC I.C. 555	1	1	1	1										E34		
28		19-12746-00	DEC I.C. 74S37	3	3	3	3										E6,E17,E3		
29		19-10544-00	DEC I.C. 74S74	3	3	3	3										E15,E12,E14		
30																			
31		19-13670-00	DEC I.C. 74S373	5	5	5	5										E40,E70,E29,E46,E35		
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1										E23		
33		19-10536-00	DEC I.C. 74S10	1	1	1	1										E20		
34		19-10537-00	DEC I.C. 74S11	1	1	1	1										E11		
35		<del>19-13462-00</del>	<del>DEC I.C. 74S240</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>										<del>E10</del>		
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1										E16		
37		19-10540-00	DEC I.C. 74S22	1	1	1	1										E19		
E.C.O. NO.																			
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								SHEET 2 OF 16				INSERTION PARTS LIST DATA BASE REV —							

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-AA+ QUANTITY / VARIATION												NOTES:	
MADE BY D. MANION DATE 12/8/77		CHECKED R. Hiron DATE 2-21-78		SECTION													
ENG R. Hiron DATE 2-21-78		PROD R. Hiron DATE 2-21-78		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-AB	M8044-AC	M8044-AD	M8044-AE										REF DESIGNATION
38		19-13340-00	DEC I.C. 74S32	1	1	1	1										E10
39		19-12388-00	DEC I.C. 74S02	1	1	1	1										E7
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1										E21
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1										Q1
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1										E28
43		19-13777-00	DEC I.C. 74LS240	2	2	2	2										E5, E18
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4										(USED WITH W2, W3)
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 LRG	13	13	13	13										
46		90-09185-00	JUMPER WIRE INSULATED	1	1	1	1										W1
47		90-07254-00	TRANSIPAD	1	1	1	1										(USE UNDER Q1)
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2										
49		90-06732-00	EYELETS	4	4	4	4										
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R										
51		16-13120-00	DELAY LINE 200NS	1	1	1	1										E4
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31										C124 thru C145, C147 thru C155
53																	
54																	
55		23-216F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1										E9
56																	
57																	
58																	
E.C.O. NO.																	
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					SHEET 3 OF 16			INSERTION PARTS LIST DATA BASE REV —									





DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION												NOTES:			
MADE BY R. MANION DATE 12/8/77		CHECKED R. Manion DATE 2-21-78		SECTION															
ENG R. Manion DATE 2-21-78		PROD R. Manion DATE 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BB	M8044-BC	M8044-BD	M8044-BE										REF DESIGNATION		
18		13-14637-00	RES NETWORK (3-22 1/8 W5%)	4	4	4	4										R1,R2,R7,R8		
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1										R22		
20																			
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	2	2										R12,R13		
22		<del>13-02874-00</del>	<del>RES 147 1/4W 1% MF</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>										<del>R21</del>		
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1										R17		
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2										R14,R15		
25		19-11579-00	DEC I.C. 8641	6	6	6	6										E1,E8,E51,E57,E63,E69		
26		19-11469-00	DEC I.C. 8640	2	2	2	2										E13,E22		
27		19-11944-00	DEC I.C. 555	1	1	1	1										E34		
28		19-12746-00	DEC I.C. 74S37	3	3	3	3										E6,E17,E3		
29		19-10544-00	DEC I.C. 74S74	3	3	3	3										E15,E12,E14		
30																			
31		19-13670-00	DEC I.C. 74S373	5	5	5	5										E40,E70,E29,E46,E35		
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1										E23		
33		19-10536-00	DEC I.C. 74S10	1	1	1	1										E20		
34		19-10537-00	DEC I.C. 74S11	1	1	1	1										E11		
35		<del>19-13462-00</del>	<del>DEC I.C. 74S240</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>										<del>E18</del>		
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1										E16		
37		19-10540-00	DEC I.C. 74S22	1	1	1	1										E19		
E.C.O. NO.																			
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								SHEET 6 OF 16				INSERTION PARTS LIST DATA BASE REV —							

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION												NOTES:			
MADE BY D. MANION DATE 12/8/77		CHECKED R. Hines DATE 2-21-78		SECTION															
ENG R. Hines DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BA	M8044-BC	M8044-BD	M8044-BE										REF DESIGNATION		
38		19-13340-00	DEC I.C. 74S32	1	1	1	1										E10		
39		19-12388-00	DEC I.C. 74S02	1	1	1	1										E7		
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1										E21		
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1										Q1		
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1										E28		
43		19-13777-00	DEC I.C. 74LS240	2	2	2	2										E5 , E18		
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4										(USED WITH W2, W3)		
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 LRG	13	13	13	13												
46		90-09185-00	JUMPER WIRE INSULATED	1	1	1	1										W1		
47		90-07254-00	TRANSIPAD	1	1	1	1										(USE UNDER Q1)		
48		90-08337-06	HANDLE FLIP CHIP (MAGENIA)	2	2	2	2												
49		90-06732-00	EYELETS	4	4	4	4												
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R												
51		16-13120-00	DELAY LINE 200NS	1	1	1	1										E4		
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31										C124 thru C145,C147 thru C155		
53																			
54																			
55		23-195F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1										E9		
56																			
57																			
58																			
E.C.O. NO.																			
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				SHEET 7 OF 16				INSERTION PARTS LIST DATA BASE REV —											



DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-BA* QUANTITY / VARIATION												NOTES:			
MADE BY D. MANION DATE 12/8/77		CHECKED R. Juvon DATE 2-21-78		SECTION															
ENG R. Juvon DATE 2-21-78		PROD R. Juvon DATE 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-BA	M8044-BC	M8044-BD	M8044-BE										REF DESIGNATION		
59																	E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74  E24, E26, E30, E32, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E36, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74  W2, W3  E24, 26, 30, 32, 36, 38, 41, 43, 53, 55, 59, 61, E65, 67, 71, 73, 25, 27, 31, 33, 37, 39, 42, 44, E54, 56, 60, 62, 66, 68, 72, 74  E24, 26, 30, 32, 36, 38, 41, 43, 53, 55, 59, 61, E65, 67, 71, 73, 25, 27, 31, 33, 37, 39, 42, 44, E54, 56, 60, 62, 66, 68, 72, 74		
60		21-I3735-01	4K MOS MEMORY 16 PIN IC(MOSTEK)	32	-	-	-												
61		21-14475-01	4K MOS MEMORY 16 PIN IC(FUJITSU)	-	32	-	-												
62		5013128	ETCH BOARD	1	1	1	1												
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R												
64		21-13914-01	4K MOS MEMORY 16 PIN IC (DEC)	-	-	32	-												
65		21-14114-01	4K MOS MEMORY 16 PIN IC(MOTOROLA	-	-	-	32												
E.C.O. NO.																			
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					SHEET 8 OF 16		INSERTION PARTS LIST DATA BASE REV —												

# DIGITAL EQUIPMENT CORPORATION

## PARTS LIST

MADE BY	D. MANION
DATE	

CHECKED *R. Hines*  
DATE *2-21-78*

SECTION

ENG *R. H. H. H.*  
DATE *2-21-78*

PROD	1000000
DATE	1-1-1970

ISSUED SECTION
----------------

M8044-CA\* QUANTITY / VARIATION

M8044-CB

22-77087

18044-CD

1580-1608

19041 38

**NOTES:**

M8044-CA\*IS A PRIMARY VARIATION OF THE  
16K X 16 BIT SYSTEM. (NOT A MODULE TYPE)  
M8044-CB,CC,CD,CE,CF ARE MODULE TYPES,  
USING DIFFERENT 16K MOS DEVICES AND ARE  
IDENTICAL IN FUNCTION AND PURPOSE.

REF DESIGNATION

	D-CS-M8044-0-1		CIRCUIT SCHEMATIC
	D-UA-M8044-0-0		UNIT ASSEMBLY
	B-DD-M8044-0-0		DWG. DIRECTORY
	D-MD-5013128-0-0		DRILL & ETCH DRAWING
1		10-10279-00	CAP 0.47 UF 25V 20% CER
2		10-01610-00	CAP 0.01 UF 50V 20% CER
3		10-02627-00	CAP 2.2 UF 20V 10% S. TANT
4		10-12121-00	CAP 220 PF 100V 1% DM
5		10-05306-00	CAP 6.8 UF 35V 10% S. TANT
6		10-12219-00	CAP 47 UF 30V AL EL
7		11-05275-00	DIODE D672
8		12-11164-01	SWITCH 5 POS
9		13-09412-00	RES 18.2K 1/4W 1% MF
10		13-09416-00	RES 31.6K 1/4W 1% MF
11		13-02957-00	RES 121 1/4W 1% MF
12		13-00295-00	RES 330 1/4W 5% CC
13		13-05126-00	RES 619 1/4W 1% CC
14		13-03110-00	RES 19.6 1/4W 1% MF
15		13-05124-00	RES 287 1/4W 1% MF
16		13-01874-00	RES 5.6K 1/4W 5% CC
17		13-14636-00	RES NETWORK (2-5K 1/8 W 5%)

REF	REF	REF	REF	REF
REF	REF	REF	REF	REF
REF	REF	REF	REF	REF
REF	REF	REF	REF	REF
1	1	1	1	1
27	27	27	27	27
3	3	3	3	3
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
2	2	2	2	2
1	1	1	1	1
1	1	1	1	1
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3

C10  
C7,C99,C100 thru C123,C146  
C5,C6,C9  
C8,C12  
C3,C4  
C1,C2  
D1,D2  
E2  
R26  
R25  
R16  
R27, R21  
R19  
R18  
R20  
R11,R24  
R4,R5,R6

E.C.O. NO.

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TITLE
-------

## 32K 16 BIT MOS MEMORY

ASSY NO.
----------

D-VA-M8044-φ-φ

SHEET 9 OF 16

SIZE	PRICE
Small	\$12.99
Medium	\$14.99
Large	\$16.99

**B**

CODE	
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**PL**

NUMBER

118044-0-0

INSERTION PARTS LIST DATA BASE REV —

REV.

D

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION												NOTES:							
MADE BY DATE		R. MANION 12/8/77		CHECKED DATE		R. <i>Swan</i> 2-21-78		SECTION															
ENG DATE		R. <i>Swan</i> 2-21-78		PROD DATE		R. <i>Martel</i> 2-21-78		ISSUED SECTION															
ITEM NO.		DRAWING NO.		PART NO.		DESCRIPTION		M8044-CB														M8044-CC	
18				13-14637-00	RES NETWORK (3-22 1/8W 5%)		4	4	4	4	4								R1,R2,R7,R8				
19				13-05123-00	RES 215 1/4W 1% MF		1	1	1	1	1								R22				
20				1301969-00	RES 22 1/4W 5% CC		1	1	1	1	1								R3				
21				13-00365-00	RES 1K 1/4W 5% CC		2	2	2	2	2								R12,R13				
22				<del>13-02874-00</del>	<del>RES 147 1/4W 1% MF</del>		<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>								<del>R21</del>				
23				13-02685-00	RES 909 1/4W 1% MF		1	1	1	1	1								R17				
24				13-00271-00	RES 220 1/4W 5%		2	2	2	2	2								R14,R15				
25				19-11579-00	DEC I.C. 8641		6	6	6	6	6								E1,E8,E51,E57,E63,E69				
26				19-11469-00	DEC I.C. 8640		2	2	2	2	2								E13,E22				
27				19-11944-00	DEC I.C. 555		1	1	1	1	1								E34				
28				19-12746-00	DEC I.C. 74S37		3	3	3	3	3								E6,E17,E3				
29				19-10544-00	DEC I.C. 74S74		3	3	3	3	3								E15,E12,E14				
30																							
31				19-13670-00	DEC I.C. 74S373		5	5	5	5	5								E40,E70,E29,E46,E35				
32				19-14451-00	DEC I.C. 74LS393		1	1	1	1	1								E23				
33				19-10536-00	DEC I.C. 74S10		1	1	1	1	1								E20				
34				19-10537-00	DEC I.C. 74S11		1	1	1	1	1								E11				
35				<del>19-13462-00</del>	<del>DEC I.C. 74S240</del>		<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>								<del>E18</del>				
36				19-12649-00	DEC I.C. 74LS75		1	1	1	1	1								E16				
37				19-10540-00	DEC I.C. 74S22		1	1	1	1	1								E19				
E.C.O. NO.																							
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							SHEET 10 OF 16					INSERTION PARTS LIST DATA BASE REV —											

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION											NOTES:		
MADE BY D. MANION DATE 12/8/77		CHECKED R. Manion DATE 2-21-78		SECTION													
ENG R. Manion DATE 2-21-78		PROD R. Manion DATE 2-21-78		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-CB	M8044-CC	M8044-CD	M8044-CE	M8044-CF									REF DESIGNATION
38		19-13340-00	DEC I.C. 74S32	1	1	1	1	1									E10
39		19-12388-00	DEC I.C. 74S02	1	1	1	1	1									E7
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1	1									E21
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1	1									Q1
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1	1									E28
43		19-13777-00	DEC I.C. 74LS240	2	2	2	2	2									E5, E18
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4	4									(USED WITH W2, W3)
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 LNC13	13	13	13	13	13									
46																	
47		90-07254-00	TRANSIPAD	1	1	1	1	1									(USE UNDER Q1)
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2	2									
49		90-06732-00	EYELETS	4	4	4	4	4									
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R	A/R									
51		16-13120-00	DELAY LINE 200NS	1	1	1	1	1									E4
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31	31									C124 thru C145,C147 thru C155
53																	
54																	
55		23-216F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1	1									E9
56																	
57																	
58																	
E.C.O. NO.																	
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						SHEET 11 OF 16		INSERTION PARTS LIST DATA BASE REV —									

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-CA* QUANTITY / VARIATION												NOTES:			
MADE BY D. MANION DATE 12/8/77		CHECKED R. Hines DATE 2-21-78		SECTION															
ENG R. Hines DATE 2-21-78		PROD R. Martel DATE 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-CB	M8044-CC													M8044-CD	M8044-CE
59																	E24,E26,E30,E32,E36,E38,E41,E43,E53,E55, E59,E61,E65,E67,E71,E73,  E24,E26,E30,E32,E38,E41,E43,E53,E55,E59, E61,E65,E67,E71,E73,E36  W2,W3  E24,E26,E30,E32,E36,E38,E41,E43,E53,E55, E59,E61,E65,E67,E71,E73 E24,E26,E30,E32,E36,E38,E41,E43,E53,E55, E59,E61,E65,E71,E67,E73  E24,E26,E30,E32,E36,E38,E41,E43,E53,E55, E59,E61,E65,E71,E67,E73		
60		21-13825-01	16K MOS MEMORY 16 PIN IC(MOSTEK)	16	-	-	-	-											
61		21-14408-01	16K MOS MEMORY 16 PIN IC(FUJITSU)	-	16	-	-	-											
62		5013128	ETCH BOARD	1	1	1	1	1											
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R	A/R											
64		21-14895-01	16K MOS MEMORY 16 PIN I.C.(INTEL)	-	-	16	-	-											
65		21-14927-01	16K MOS MEMORY 16 PIN I.C. (TI.)	-	-	-	16	-											
66		21-14397-01	16 MOS MEMORY 16 PIN I.C.(HITACHI)	-	-	-	-	16											
E.C.O. NO.																			
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								SHEET 12 OF 16				INSERTION PARTS LIST DATA BASE REV --							

# DIGITAL EQUIPMENT CORPORATION

## PARTS LIST

MADE BY	D. MANION
DATE	12/8/77

CHECKED	R. Yuen
DATE	2-21-78

SECTION

ENG R. *Hester*  
DATE 2-21-78

PROD	R. Mantel
DATE	2-21-78

ISSUED SECTION	
----------------	--

M8044-DA\*

### QUANTITY / VARIATION

**NOTES:**

M8044-DA\* IS A PRIMARY VARIATION OF THE 32K X 16 BIT SYSTEM. (NOT A MODULE TYPE)  
M8044-DB,DC,DD,~~DE~~,~~DF~~  
ARE MODULE TYPES, USING DIFFERENT 16K MOS DEVICES AND ARE IDENTICAL IN FUNCTION AND PURPOSE.

**REF DESIGNATION**[illegible]

**E.C.O. NO.**

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TITLE
-------

## 32K 16 BIT MOS MEMORY

ASSY NO.
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D-VA-M8044-Ø-Ø

SIZE
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**B**

CODE	DESCRIPTION	AMOUNT	DATE
1	...	...	...
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PL

**NUMBER**

M8044-0-0

**REV.**

D

SHEET 13 OF 16

INSERTION PARTS LIST DATA BASE REV —

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA* QUANTITY / VARIATION												NOTES:							
MADE BY DATE		R. MANION 12/8/77		CHECKED DATE		R. Manion 2-21-78		SECTION															
ENG DATE		R. Manion 2-21-78		PROD DATE		R. Manion 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF									REF DESIGNATION						
18		13-14637-00	RES NETWORK (3-22 1/8 W 5 % )	4	4	4	4	4									R1,R2,R7,R8						
19		13-05123-00	RES 215 1/4W 1% MF	1	1	1	1	1									R22						
20		13-01969-00	RES 22 1/4W 5% CC	1	1	1	1	1									R2						
21		13-00365-00	RES 1K 1/4W 5% CC	2	2	2	2	2									R12,R13						
22		<del>13-02874-00</del>	<del>RES 147 1/4W 1% MF</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>									<del>R21</del>						
23		13-02685-00	RES 909 1/4W 1% MF	1	1	1	1	1									R17						
24		13-00271-00	RES 220 1/4W 5%	2	2	2	2	2									R14,R15						
25		19-11579-00	DEC I.C. 8641	6	6	6	6	6									E1,E8,E51,E57,E63,E69						
26		19-11469-00	DEC I.C. 8640	2	2	2	2	2									E13,E22						
27		19-11944-00	DEC I.C. 555	1	1	1	1	1									E34						
28		19-12746-00	DEC I.C. 74S37	3	3	3	3	3									E6,E17,E3						
29		19-10544-00	DEC I.C. 74S74	3	3	3	3	3									E15,E12,E14						
30																							
31		19-13670-00	DEC I.C. 74S373	5	5	5	5	5									E40,E70,E29,E46,E35						
32		19-14451-00	DEC I.C. 74LS393	1	1	1	1	1									E23						
33		19-10536-00	DEC I.C. 74S10	1	1	1	1	1									E20						
34		19-10537-00	DEC I.C. 74S11	1	1	1	1	1									E11						
35		<del>19-13462-00</del>	<del>DEC I.C. 74S240</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>									<del>E18</del>						
36		19-12649-00	DEC I.C. 74LS75	1	1	1	1	1									E16						
37		19-10540-00	DEC I.C. 74S22	1	1	1	1	1									E19						
E.C.O. NO.																							
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				SHEET 14 OF 16				INSERTION PARTS LIST DATA BASE REV —															

DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA* QUANTITY / VARIATION											NOTES:				
MADE BY D. MANION DATE 12/8/77		CHECKED R. Green DATE 2-21-78		SECTION		M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF									
ENG R. Green DATE 2-21-78		PROD R. Martin DATE 2-21-78		ISSUED SECTION															
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION														REF DESIGNATION		
38		19-13340-00	DEC I.C. 74S32	1	1	1	1	1									E10		
39		19-12388-00	DEC I.C. 74S02	1	1	1	1	1									E7		
40		19-10544-01	DEC I.C. 74S74-01	1	1	1	1	1									E21		
41		19-12541-00	-5 VOLT REGULATOR	1	1	1	1	1									Q1		
42		19-12807-00	DEC I.C. 74LS10	1	1	1	1	1									E28		
43		19-13777-00	DEC I.C. 74LS240	2	2	2	2	2									E5, E18		
44		91-07771-00	DIODE ASSEMBLY SPACER	4	4	4	4	4									(USED WITH W2, W3)		
45		90-09149-00	PIN WIRE WRAP .025 SQ. X .345 LRG	13	13	13	13	13											
46																			
47		90-07254-00	TRANSIPAD	1	1	1	1	1									(USE UNDER Q1)		
48		90-08337-06	HANDLE FLIP CHIP (MAGENTA)	2	2	2	2	2											
49		90-06732-00	EYELETS	4	4	4	4	4											
50		91-05740-55	WIRE 30 AWG. GRN	A/R	A/R	A/R	A/R	A/R											
51		16-13120-00	DELAY LINE 200NS	1	1	1	1	1									E4		
52		10-10274-01	CAP 0.22 UF 50V +80 - 20% CER	31	31	31	31	31									C124 thru C145,C147 thru C155		
53																			
54																			
55		23-195F1-00	DEC I.C. 1KX4 TTL PROM	1	1	1	1	1									E9		
56																			
57																			
58																			
E.C.O. NO.																			
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								SHEET 15 OF 16				INSERTION PARTS LIST DATA BASE REV —							



DIGITAL EQUIPMENT CORPORATION PARTS LIST				M8044-DA# QUANTITY / VARIATION										NOTES:			
MADE BY DATE		CHECKED DATE		SECTION													
ENG DATE		PROD DATE		ISSUED SECTION													
ITEM NO.	DRAWING NO.	PART NO.	DESCRIPTION	M8044-DB	M8044-DC	M8044-DD	M8044-DE	M8044-DF								REF DESIGNATION	
59																	
60		21-13825-01	16K MOS MEMORY 16 PIN IC (MOSTEK)	32	-	-	-	-								E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
61		21-14408-01	16K MOS MEMORY 16 PIN IC (FUJITSU)	-	32	-	-	-								E24, E26, E30, E32, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E36, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
62		5013128	ETCH BOARD	1	1	1	1	1									
63		91-07560-01	WIRE #22 BUSS	A/R	A/R	A/R	A/R	A/R								W2, W3	
64		21-14895-01	16K MOS MEMORY 16 PIN I.C. (INTEL)	-	-	32	-	-								E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
65		21-14927-01	16K MOS MEMORY 16 PIN (TI)	-	-	-	32	-								E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74	
66		21-14897-01	16K MOS MEMORY 16 PIN (HITACHI)	-	-	-	-	32								E24, E26, E30, E32, E36, E38, E41, E43, E53, E55, E59, E61, E65, E67, E71, E73, E25, E27, E31, E33, E37, E39, E42, E44, E54, E56, E60, E62, E66, E68, E72, E74, E33	

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TITLE  
32K 16 BIT MOS MEMORY

ASSY NO.  
D-UA-M8044-0-0

SIZE  
B

CODE  
PL

NUMBER  
M8044-0-0

REV.  
D

SHEET 16 OF 16

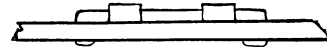
INSERTION PARTS LIST DATA BASE REV —

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# MODULE VARIATIONS AA/CA

1.

2. W2 THRU W5 SHOULD BE INSTALLED WITH ASSEMBLY SPACERS SO THAT THEY LOOK LIKE THE FOLLOWING:



3. R PACKS SHOULD BE INSTALLED SO THAT LEADS DO NOT INTERFERE WITH OTHER COMPONENTS

4. ⊗ WIRE WRAP PIN.

MEMORY TYPE	JUMPER CONFIG	VARIATION
NON-PARITY	5-7	AA CA

MEMORY SIZE	JUMPER CONFIG	VARIATION
4K	17-15	AA
16K	16-15	CA

7. OPTIONAL JUMPER I2 WILL ALLOW USER TO EXTEND USABLE MEMORY SPACE FROM 28K TO 30K NORMAL JUMPER IS I3

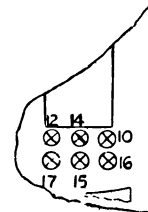
JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

MEMORY SIZE	W1	R3	VARIATION
4K	IN	OUT	AA
16K	OUT	IN	CA

10. THE FOLLOWING IC'S ARE NOT INSTALLED IN AA & CA VARIATIONS  
E25, 27, 31, 33, 37, 39, 42, 44, 45, 47, 48, 49, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 72 & 74.



DETAIL A



NOTES:

CHK	CHANGE NO	REV
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23	MB044	0002
24	MB044	0003
25	MB044	0004
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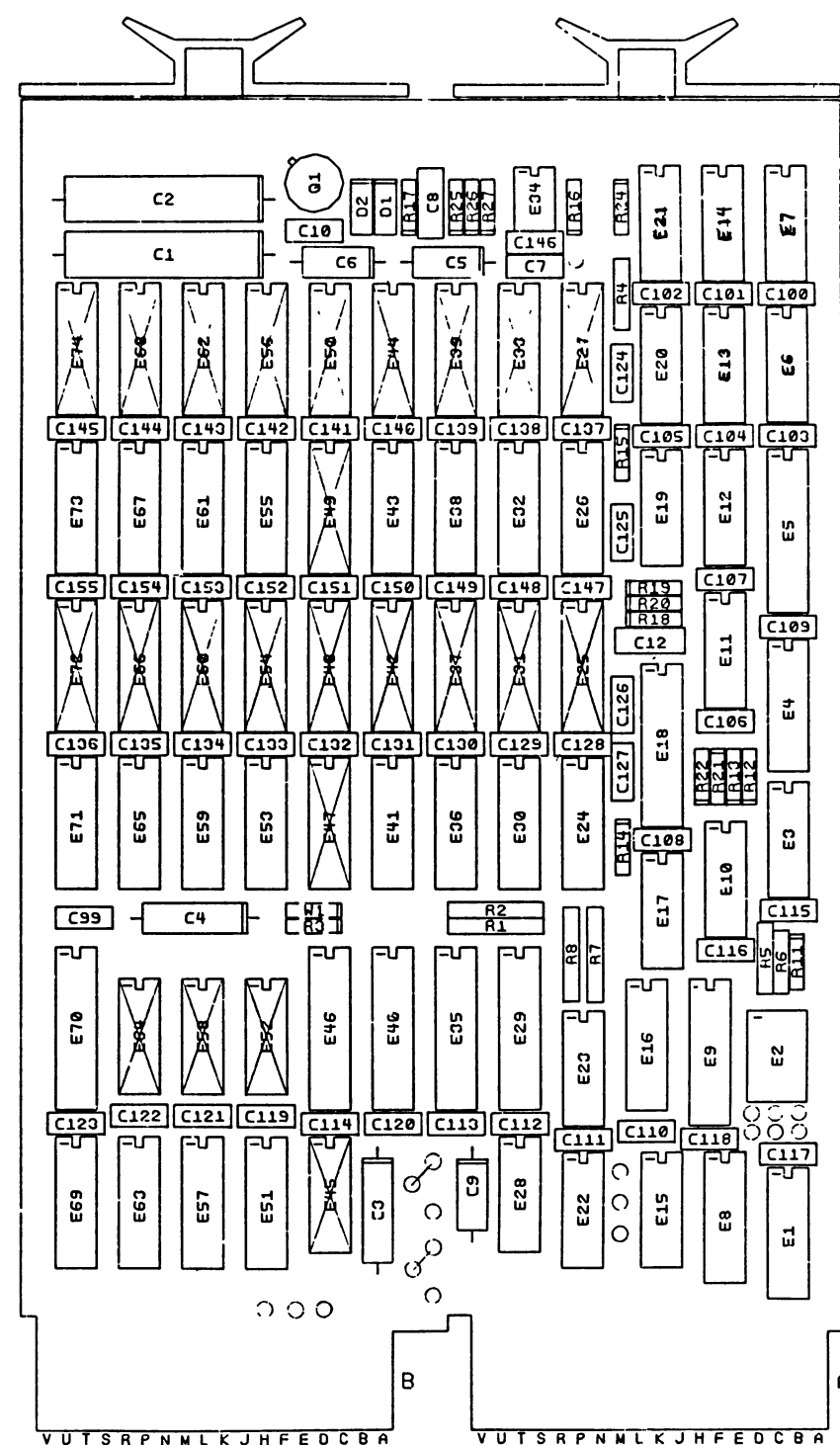
NOTES:

[illegible]

CHK/CHANGE NO	REV
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10-0-420411



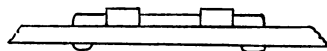
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ENC.				
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PROD.			TITLE	
SCALE 2/1			32K 16 BIT MOS MEMORY	
SHT. 2 OF 8			SIZE CODE	NUMBER
NEXT HIGH ASSY. B DID MEMO			0	00000000

1 MS# 261500

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# MODULE VARIATIONS BA & DA

2. W2 THRU W5 SHOULD BE INSTALLED  
WITH ASSEMBLY SPACERS SO THAT  
THEY LOOK LIKE THE FOLLOWING:



3. R PACKS SHOULD BE INSTALLED SO  
THAT LEADS DO NOT INTERFERE  
WITH OTHER COMPONENTS

4. Ⓢ WIRE WRAP PIN.

MEMORY TYPE	JUMPER CONFIG	VARIATION
NON-PARITY	5-7	BA, DA

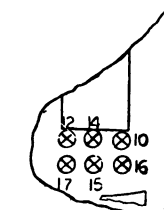
MEMORY SIZE	JUMPER CONFIG	VARIATION
8K	17-13 12-4	BA
32K	16-15 10-4	DA

7. OPTIONAL JUMPER J2 WILL ALLOW  
USER TO EXTEND USABLE MEMORY  
SPACE FROM 28K TO 30K. NORMAL  
JUMPER IS 1-3

JUMPER	BATTERY BACKUP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

MEMORY SIZE	W1	R3	VARIATION
8K	IN	OUT	BA
32K	OUT	IN	DA

10. THE FOLLOWING IC'S ARE NOT  
INSTALLED IN BA & DA VARIATIONS:  
E45, 47, 48, 49, 50, 52, 58 & 64.



DETAIL A

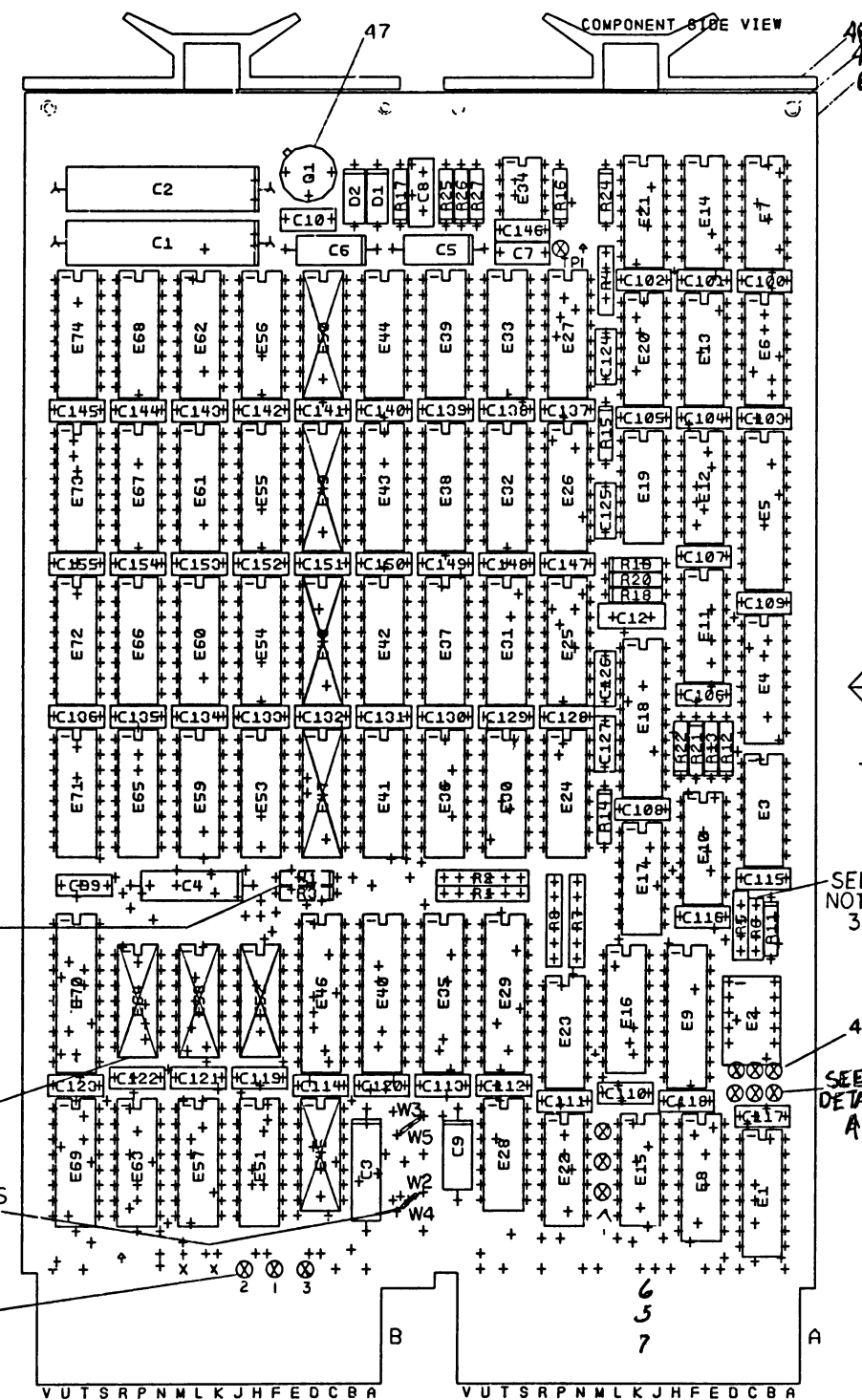
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ETCH REV. D-P  
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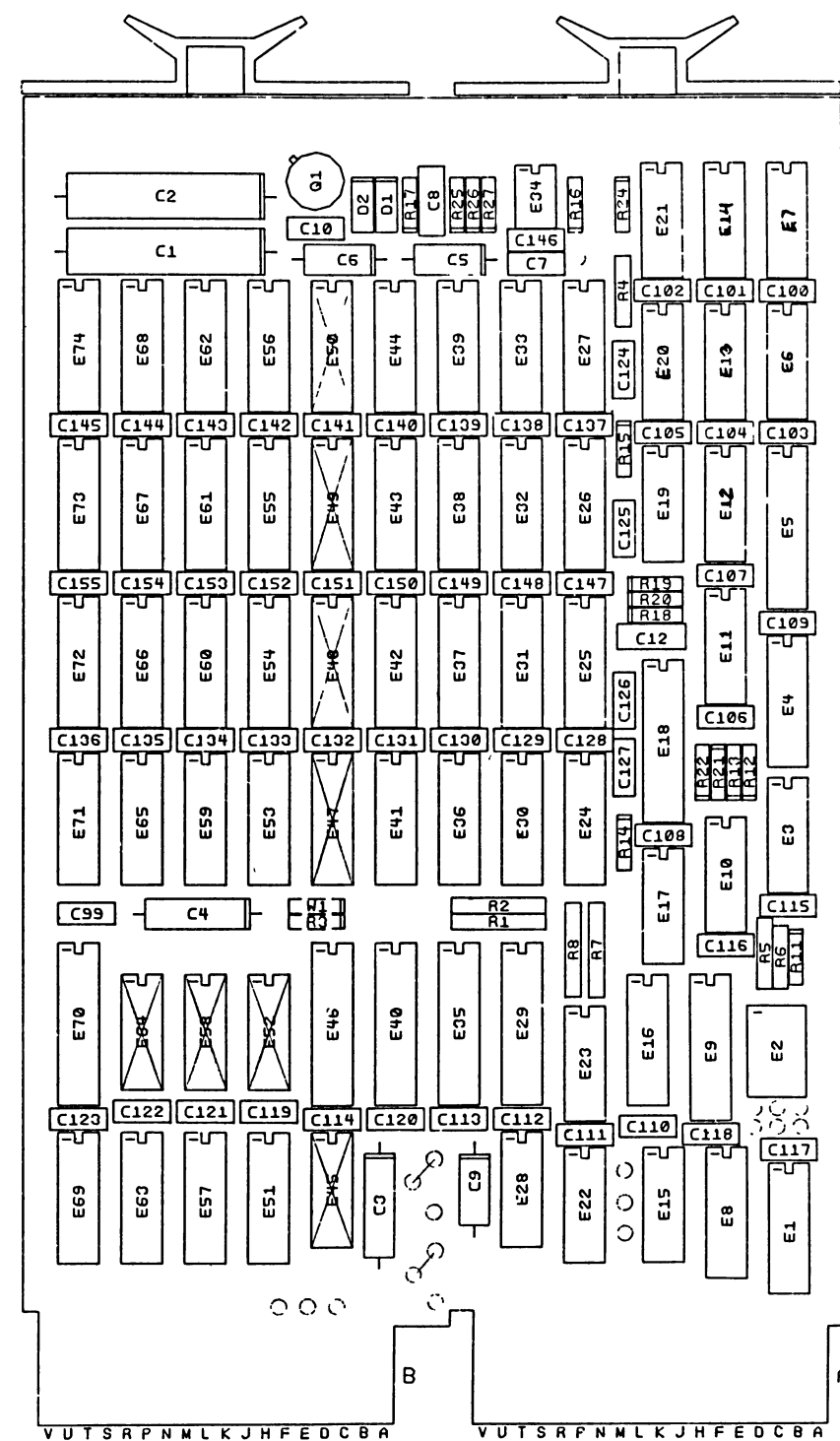
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ENG.  
PROJ. ENG.  
PROD.  
SCALE 2/1  
SHT. 3 OF 8  
NEXT HIGHER ASSY. B-10-D-18044-0

DATE 10-1-84  
TITLE 32K 16BIT MOS MEMORY  
SIZE CODE 2/1  
NUMBER 0  
REV 0



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MODULE VARIATIONS BASE DA



NOTES:

CHK. CHANGE NO. REV.

SIGNATURES	DATE	digital
DRN.		
CHK'D.		TITLE
ENG.		32K 16 BIT MOS MEMORY
PROJ. ENG.		SIZE CODE
PROD.		NUMBER
SCALE 2/1	OF 8	REV
SHT. 4		
NEXT HIGHER ASSY. BDD M8044		

mL 1 MS#

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NOTES:

1.  $\odot$  = WIRE WRAP PIN

TYPE MEMORY	JUMPER CONFIGURATION
NON PARITY	5 TO 7
PARITY	5 TO 6

TYPE	JUMPER CONFIGURATION
4K	17 TO 15 & 17 TO 14
8K	17 TO 15 & 12 TO 14
16K	16 TO 15 & 16 TO 14
32K	16 TO 15 & 16 TO 14

DEC (K)	OCTAL	SWITCH SETTING (X = OFF)				
		SI-1	SI-2	SI-3	SI-4	SI-5
0	000000					
4	020000					X
8	040000				X	
12	060000				X	X
16	100000			X		
20	120000			X		X
24	140000			X	X	
28	160000			X	X	X
32	200000	X				
36	220000	X				X
40	240000	X			X	
44	260000	X			X	X
48	300000	X	X			
52	320000	X	X			X
56	340000	X	X	X		
60	360000	X	X	X	X	
64	400000	X				
68	420000	X				X
72	440000	X			X	
76	460000	X			X	X
80	500000	X		X		
84	520000	X		X		X
88	540000	X		X	X	
92	560000	X		X	X	X
96	600000	X	X			
100	620000	X	X			X
104	640000	X	X		X	
108	660000	X	X		X	X
112	700000	X	X	X		
116	720000	X	X	X		X
120	740000	X	X	X	X	
124	760000	X	X	X	X	X

5. NORMAL JUMPER 1 TO 3.  
OPTIONAL JUMPER 1 TO 2  
WILL ALLOW USER TO EXTEND USABLE  
MEMORY SPACE FROM 28K TO 30K.

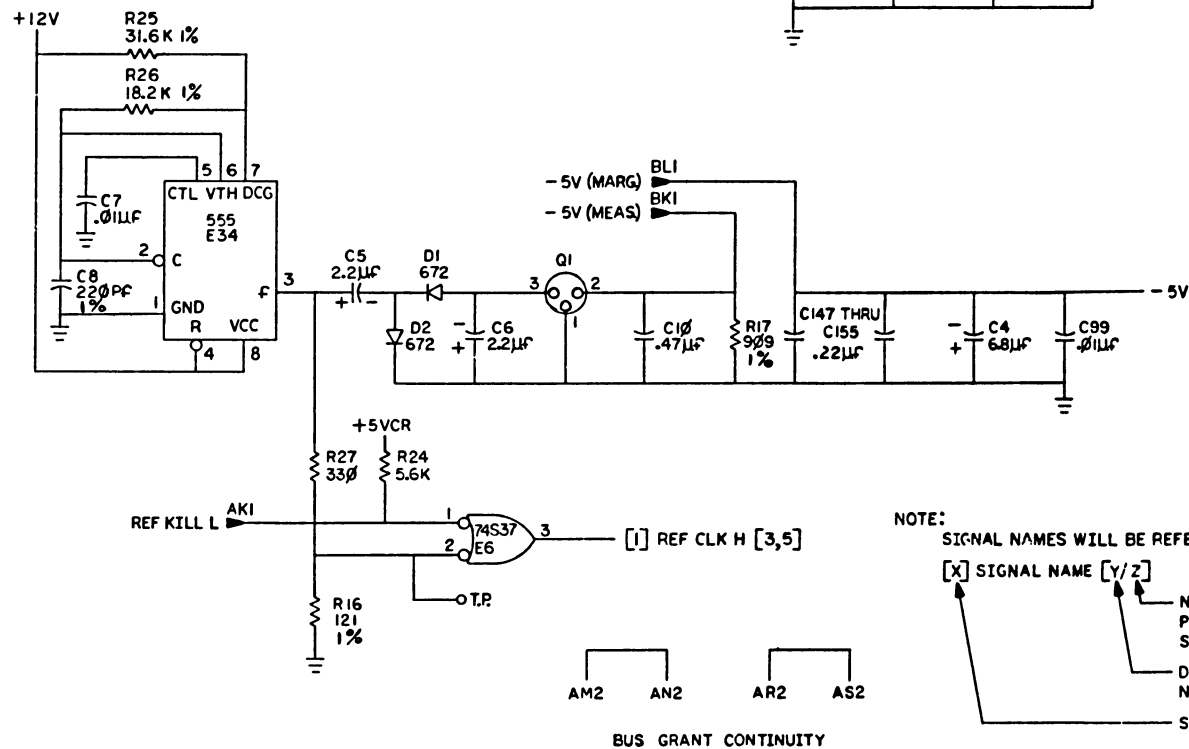
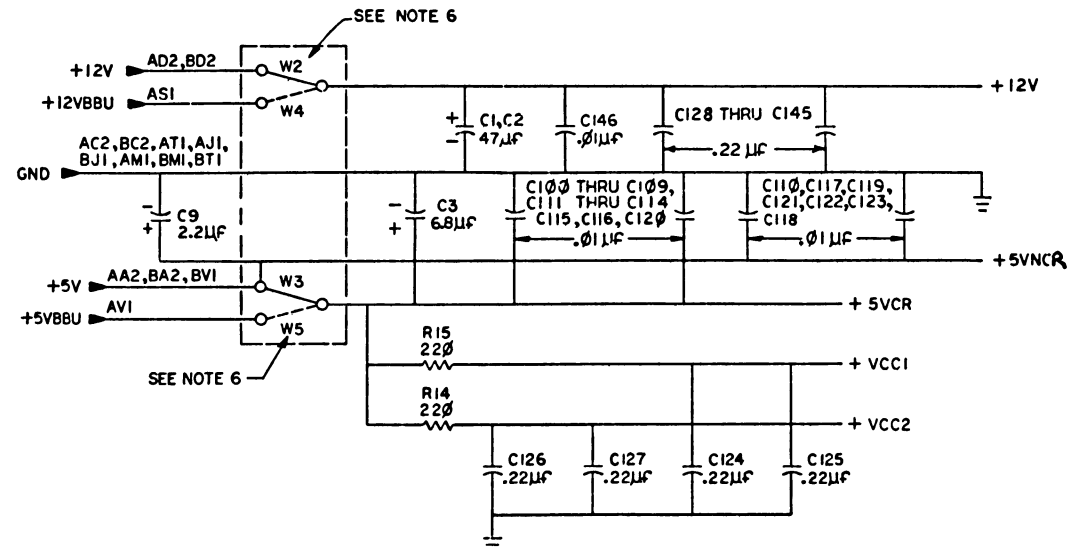
JUMPER	BATTERY BACK-UP	NON BATTERY BACK-UP
W2	OUT	IN
W3	OUT	IN
W4	IN	OUT
W5	IN	OUT

MEMORY SIZE	W1	R3
4K	IN	OUT
8K	IN	OUT
16K	OUT	IN
32K	OUT	IN

OPTION DESIGNATION	PRIMARY VARIATION	SYSTEM DESCRIPTION
MSVII-DA	M8044-AA	4K X 16 BITS
MSVII-DB	M8044-BA	8K X 16 BITS
MSVII-DC	M8044-CA	16K X 16 BITS
MSVII-DD	M8044-DA	32K X 16 BITS

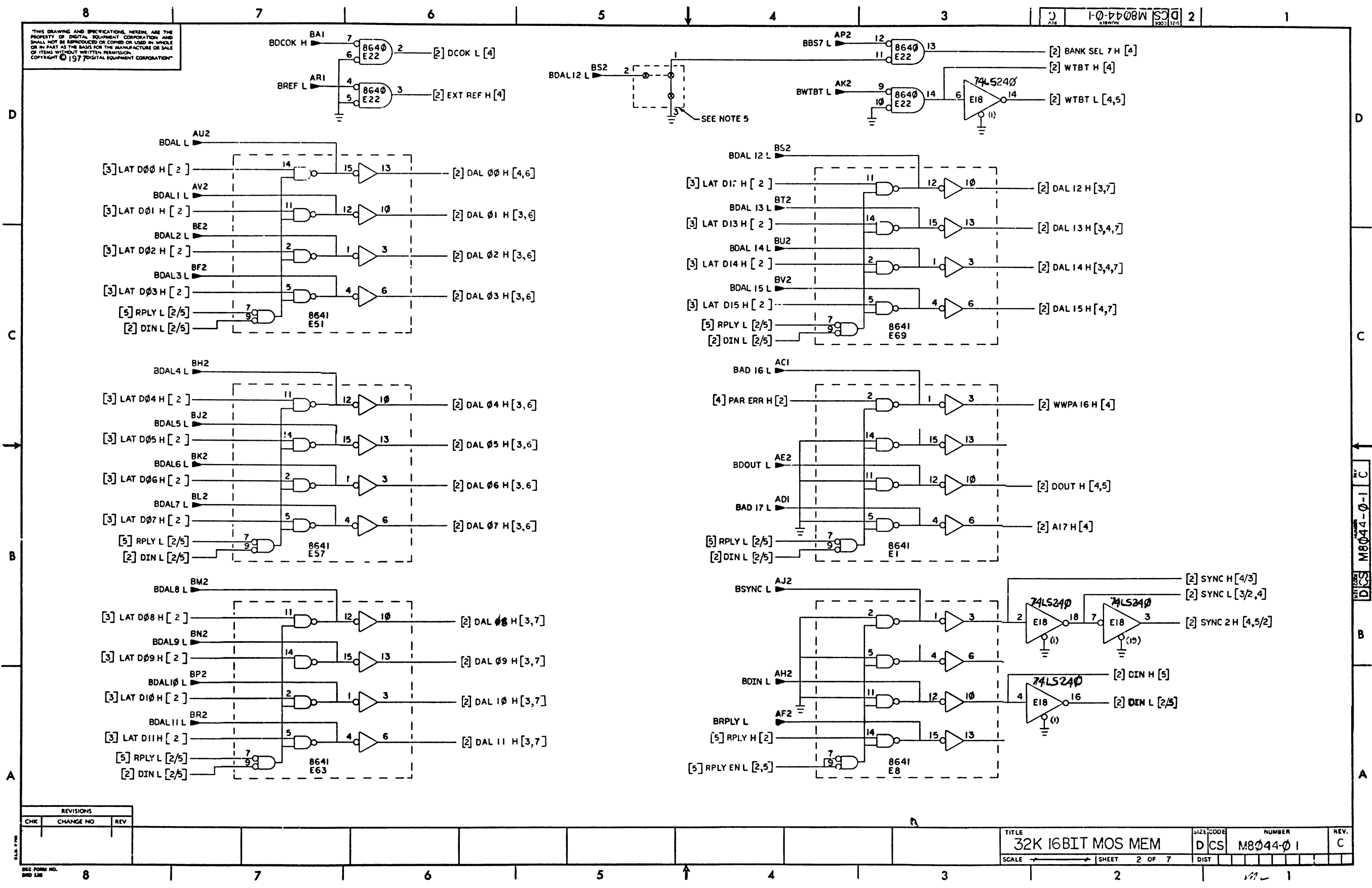
IC TYPE	+5V	GND	+12V	-5V
555		I	8	
MOS	9	16	8	1
74S373	20	10		
74LS393	14	7		
74S280	14	7		
74S74	14	7		
74S10	14	7		
74S11	14	7		
8641	16	8		
8640	8	1		
74S240	20	10		
74S37	14	7		
74S22	14	7		
1KX4 PROM	18	9		
74S02	14	7		
74LS75	5	12		
74S32	14	7		
74LS10	14	7		
74LS240	20	10		

10. THESE I.C.'S USED ONLY IN 8K & 32K CONFIG'S.



NOTE:  
SIGNAL NAMES WILL BE REFERENCED AS FOLLOWS:  
[X] SIGNAL NAME [Y/Z]  
NUMBER OF CONNECTION POINTS ON DESTINATION SHEET.  
DESTINATION SHEET NUMBER.  
SOURCE SHEET NUMBER.

DRN: Steve Garity	10-25-78	FIRST USED ON	MSVII-D	digital
CHK'D R GIVEN	2-21-78	TITLE	32K 16BIT	
ENG R GIVEN	2-21-78		MOS MEM	
PROJ ENG R GIVEN	2-21-78			
PROD R GIVEN	2-21-78			
NEXT HIGHER ASSY.				
B-DD-M8044-0-1		SIZE CODE	D CS	NUMBER
SCALE				M8044-0-1
SHEET	1 OF 7	DIST.		REV. C



REV. C  
M8044-0-1

B

A

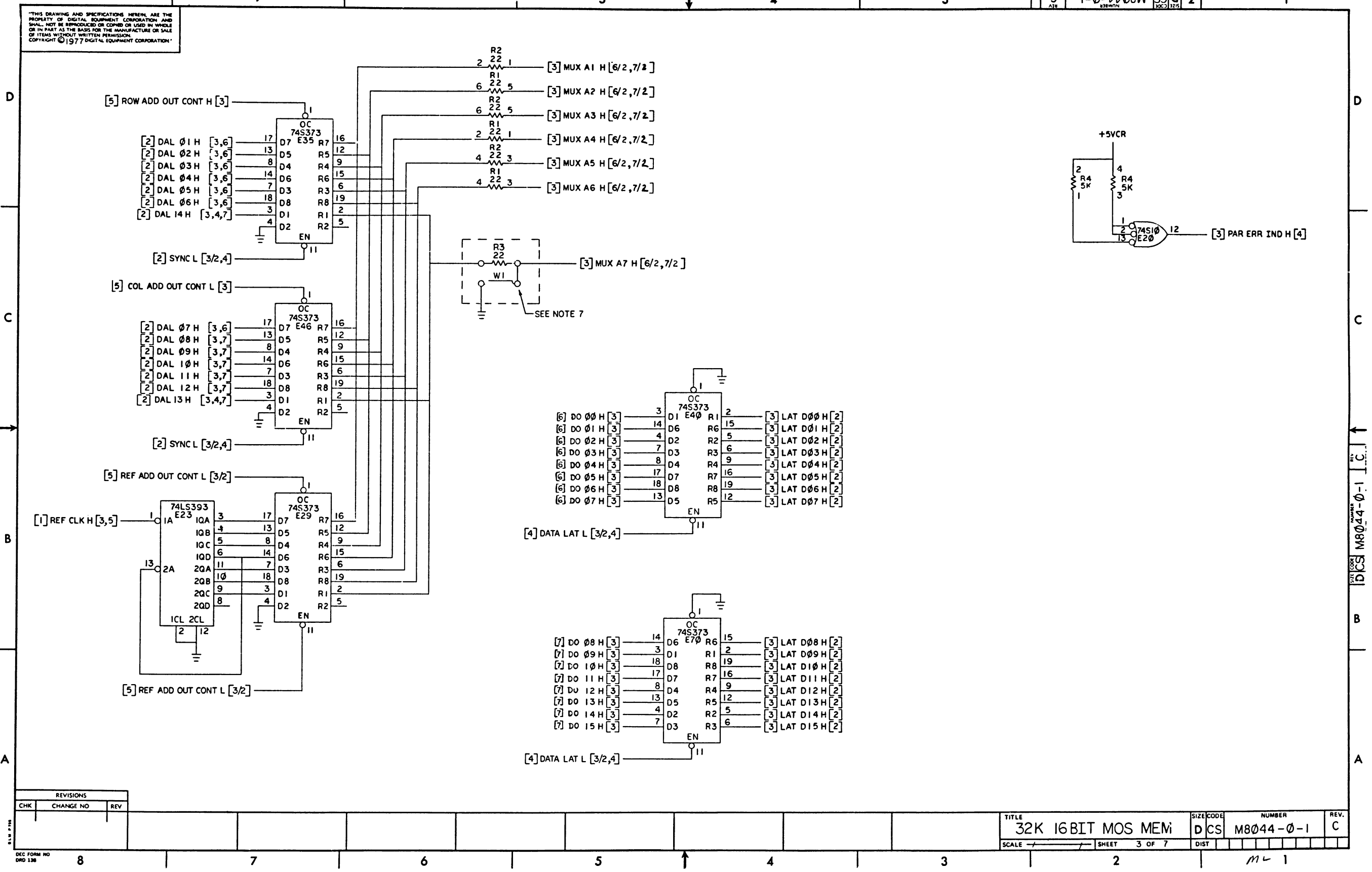
REVISIONS		
CHK	CHANGE NO	REV

DEC FORM NO. 130  
DSD 130

TITLE		SIZE/CODE	NUMBER	REV.
32K 16BIT MOS MEM		D CS	M8044-0 1	C
SCALE		SHEET	2 OF 7	DIST

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1-0-44-08W 2



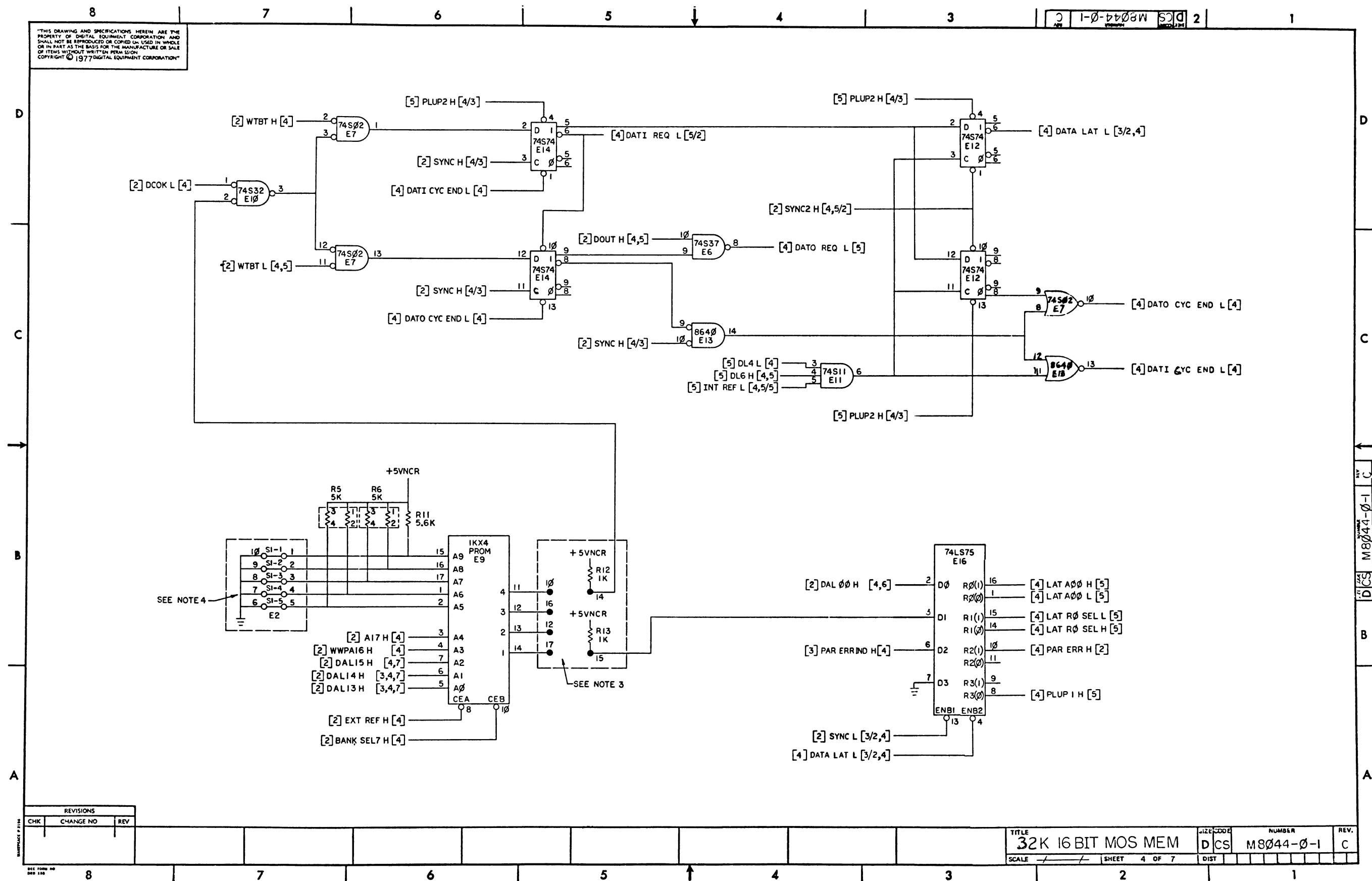
REVISIONS		
CHK	CHANGE NO	REV

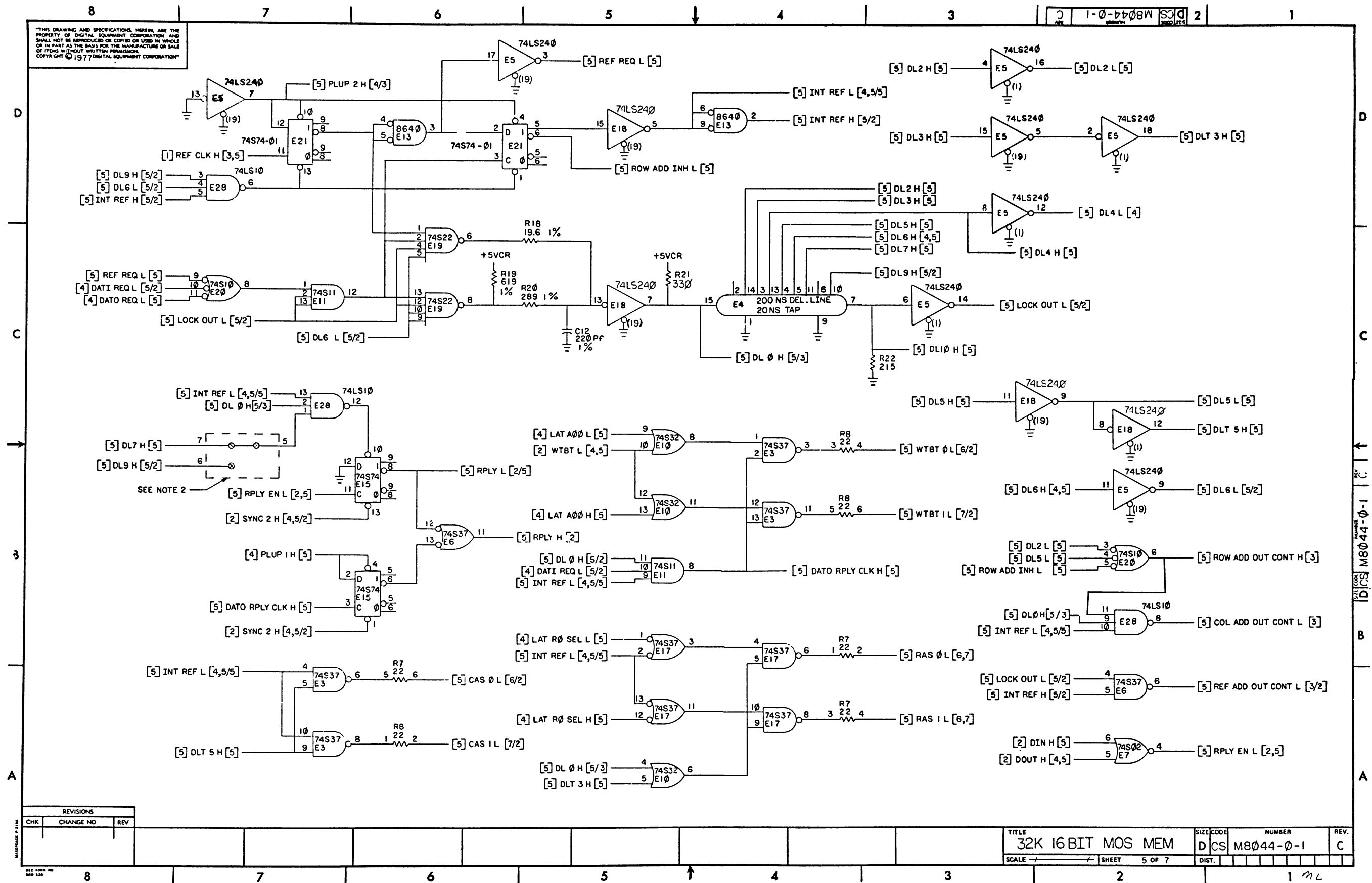
TITLE				SIZE CODE		NUMBER				REV.	
32K 16BIT MOS MEM				D CS		M8044-0-1				C	
SCALE		SHEET		3 OF 7		DIST					

2

ML 1

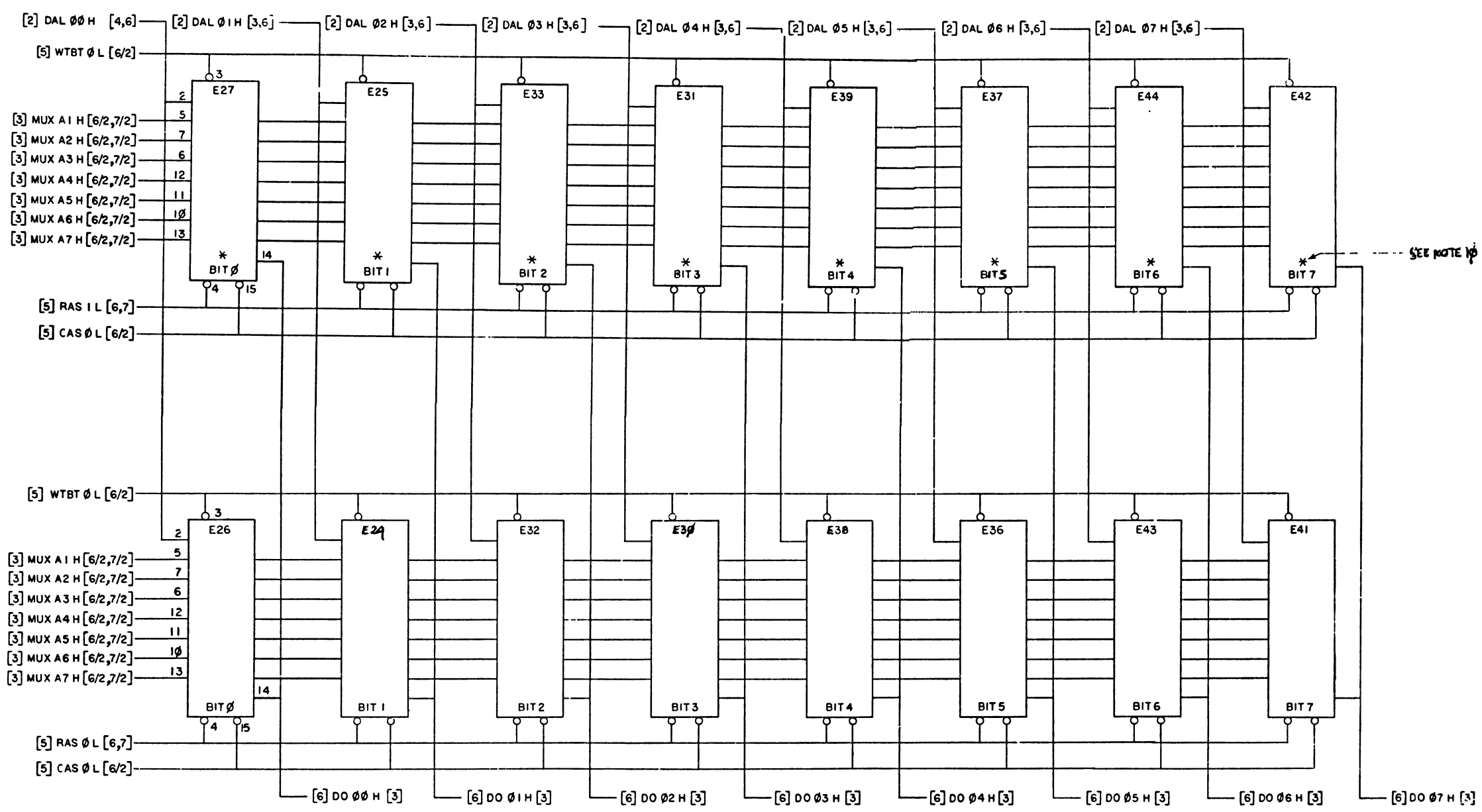






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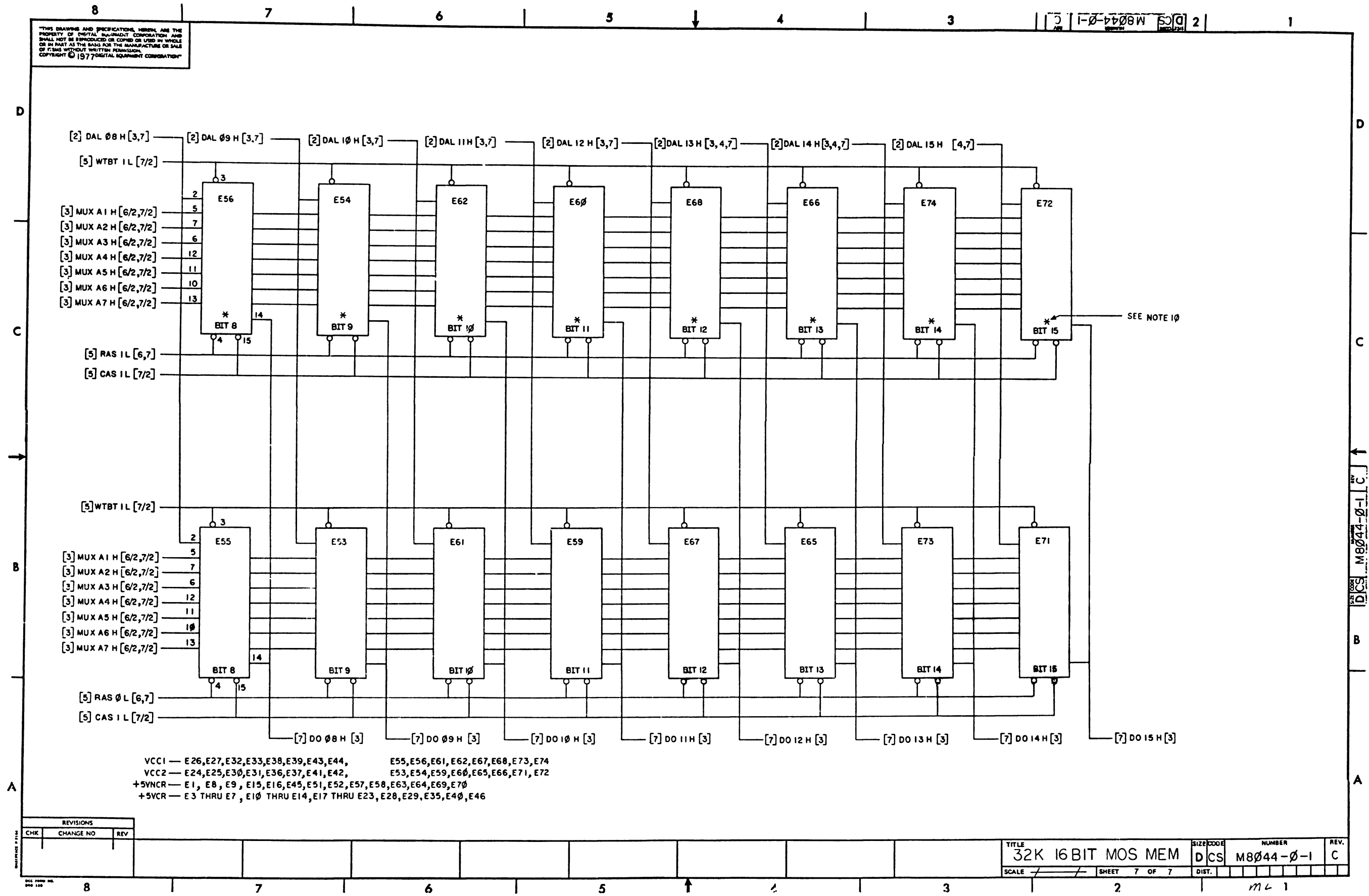
1-0-4408W DCS 2



VCC1 — E26, E27, E32, E33, E38, E39, E43, E44, E55, E56, E61, E62, E67, E68, E73, E74  
VCC2 — E24, E25, E30, E31, E36, E37, E41, E42, E53, E54, E59, E60, E65, E66, E71, E72  
+5VNCR — E1, E8, E9, E15, E16, E45, E51, E52, E57, E58, E63, E64, E69, E70  
+5VCR — E3 THRU E7, E10 THRU E14, E17 THRU E23, E28, E29, E35, E40, E46

REVISIONS		
CHK	CHANGE NO	REV

TITLE 32K 16BIT MOS MEM		SIZE DCS	NUMBER M8044-0-1	REV. C
SCALE 1/16"	SHEET 6 OF 7	QTY.	1,111	



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## TABLE OF CONTENTS

B-TC-DLV11-J-1	FIELD MAINTENANCE PRINT SET
	TABLE OF CONTENTS
A-PL-DLV11-J-Ø	4 SERIAL LINE PER. CTRLR.
A-PL-DLV11-J-SH	SHIPPING LIST (DLV11-J)
D-CS-M8Ø43-Ø-1	4 SERIAL LINE PER. CTRLR.
D-UA-M8Ø43-Ø-Ø	4 SERIAL LINE PER. CTRLR.
A-PS-23467A2-Ø-Ø	ROM MAP

**UNIT VARIATIONS  
COVERED BY THIS  
PRINT SET**

DLV11-J

DLVI I-J  
Field Maintenance  
Print Set

# Digital Equipment Corporation

PRINT SET ORDER NO.  
MP00586

[illegible]

[illegible]DEC FORM  
FRA 110

# DIGITAL EQUIPMENT CORPORATION

## MAYNARD, MASSACHUSETTS

### PARTS LIST

---

MADE BY <i>M. Normand</i>	CHECKED <i>RW Caunter</i>	SECTION
DATE <i>28 Feb 78</i>	DATE <i>28 Feb 78</i>	1
ENG <i>Thomas Zajac</i>	PROD	ISSUED SECT.
DATE <i>2 MAR 78</i>	DATE <i>1 March 3/6/78</i>	1

[illegible]

TITLE	SHIPPING LIST (DLV11-J)	ASSY NO. B-DD-DLV11-J	SIZE A	CODE PL	NUMBER DLV11-J-SH	REV	ECO NO.
		SHEET 1 OF 1	DIST				

DEC FORM

### QUANTITY VARIATION

[illegible]

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# NOTES:

1. UNDERLINED TERM DESIGNATES LABEL IN ETCH.
2. --- DESIGNATES WIRE-WRAP JUMPER, NOT INSERTED.
3. --- DESIGNATES WIRE-WRAP JUMPER IS INSERTED FOR SHIPMENT.

## KI:BUS ADDRESS/DATA LOGIC

DRN. <i>Wilson</i>	30 JAN 78	FIRST USED ON	DLV11-J	<i>digital</i>
CHK'D <i>W. C. Carter</i>	28 FEB 78	TITLE	4 SERIAL LINE	
ENG. <i>James J. ...</i>	2 MAR 78		PER. CTRL.	
PROJ. ENG. <i>James J. ...</i>	2 MAR 78			
PROD. <i>Wilson</i>	13 JUL 78			
NEXT HIGHER ASSY.				
B-DD-M8043-0		SIZE	CODE	NUMBER
SCALE NONE		D	CS	M8043-0-1
SHEET 1 OF 7		DIST.		

REV.	CHANGE NO.	DATE	BY	CHK'D
1	1	17 JUL 77	T. ZAJAC	
2	2	23 SEP 77	T. ZAJAC	
3	3	23 SEP 77	T. ZAJAC	
4	4	23 SEP 77	T. ZAJAC	
5	5	23 SEP 77	T. ZAJAC	
6	6	23 SEP 77	T. ZAJAC	
7	7	23 SEP 77	T. ZAJAC	
8	8	23 SEP 77	T. ZAJAC	

8

7

6

5

4

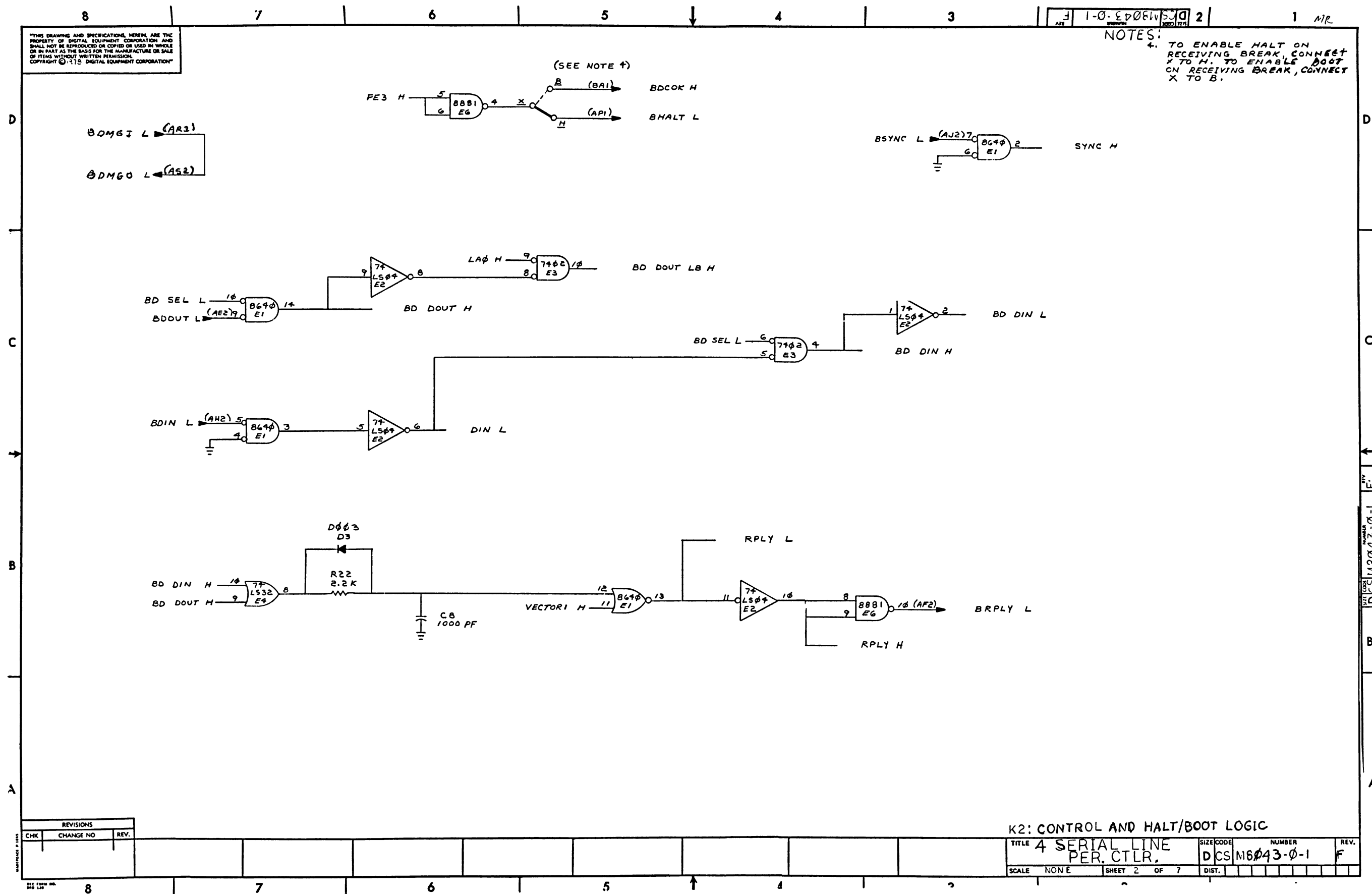
3

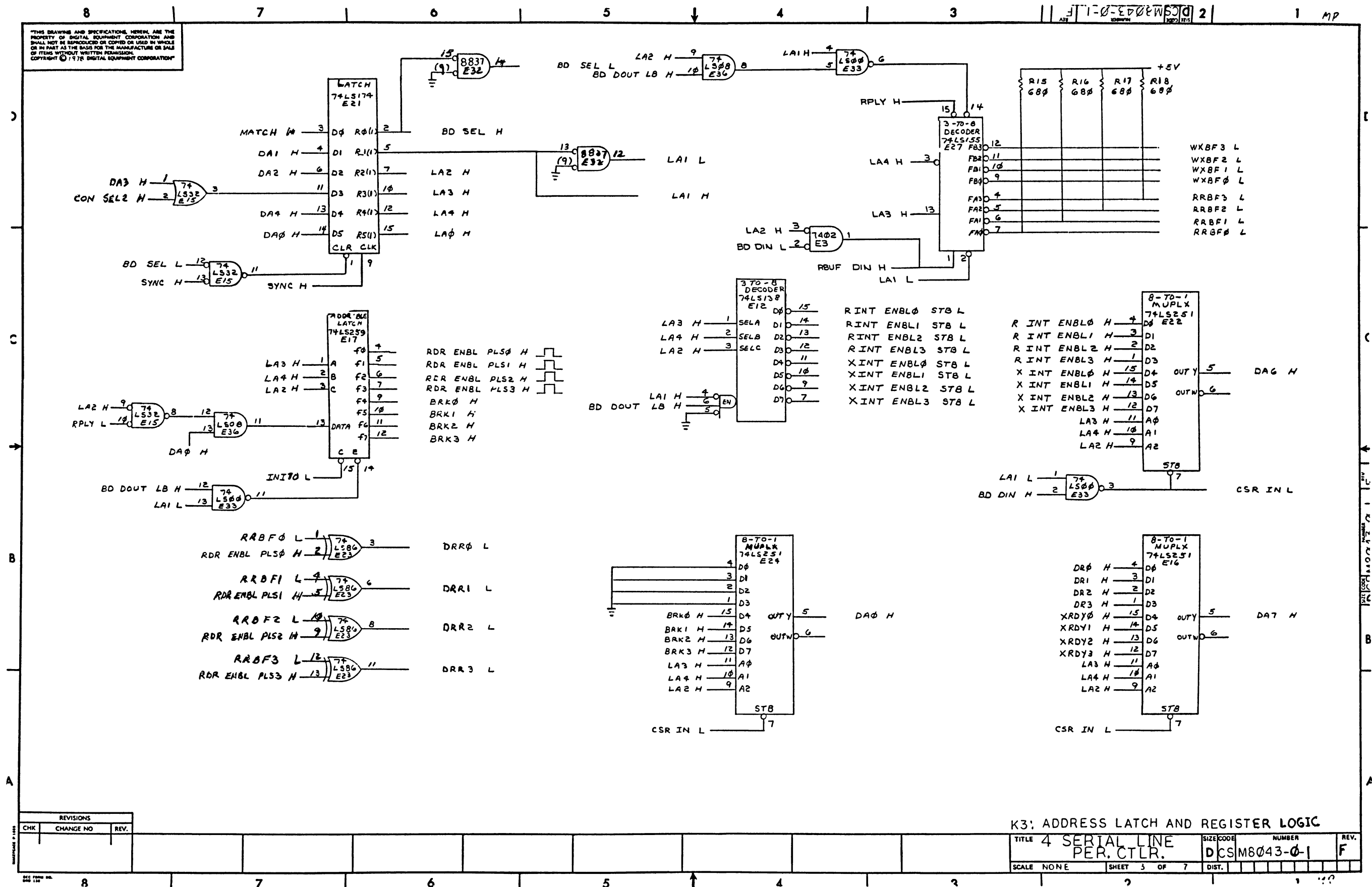
2

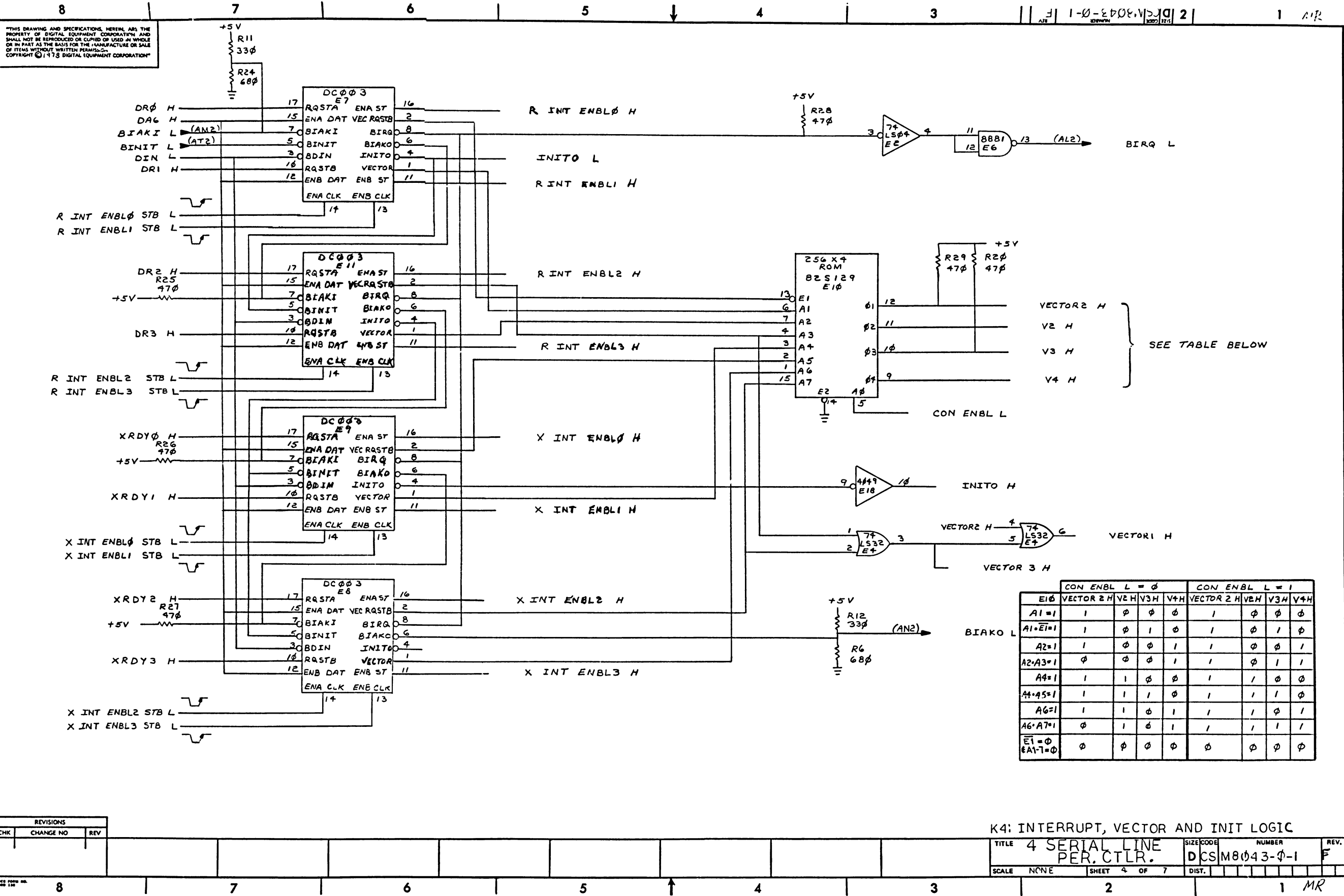
1

MP





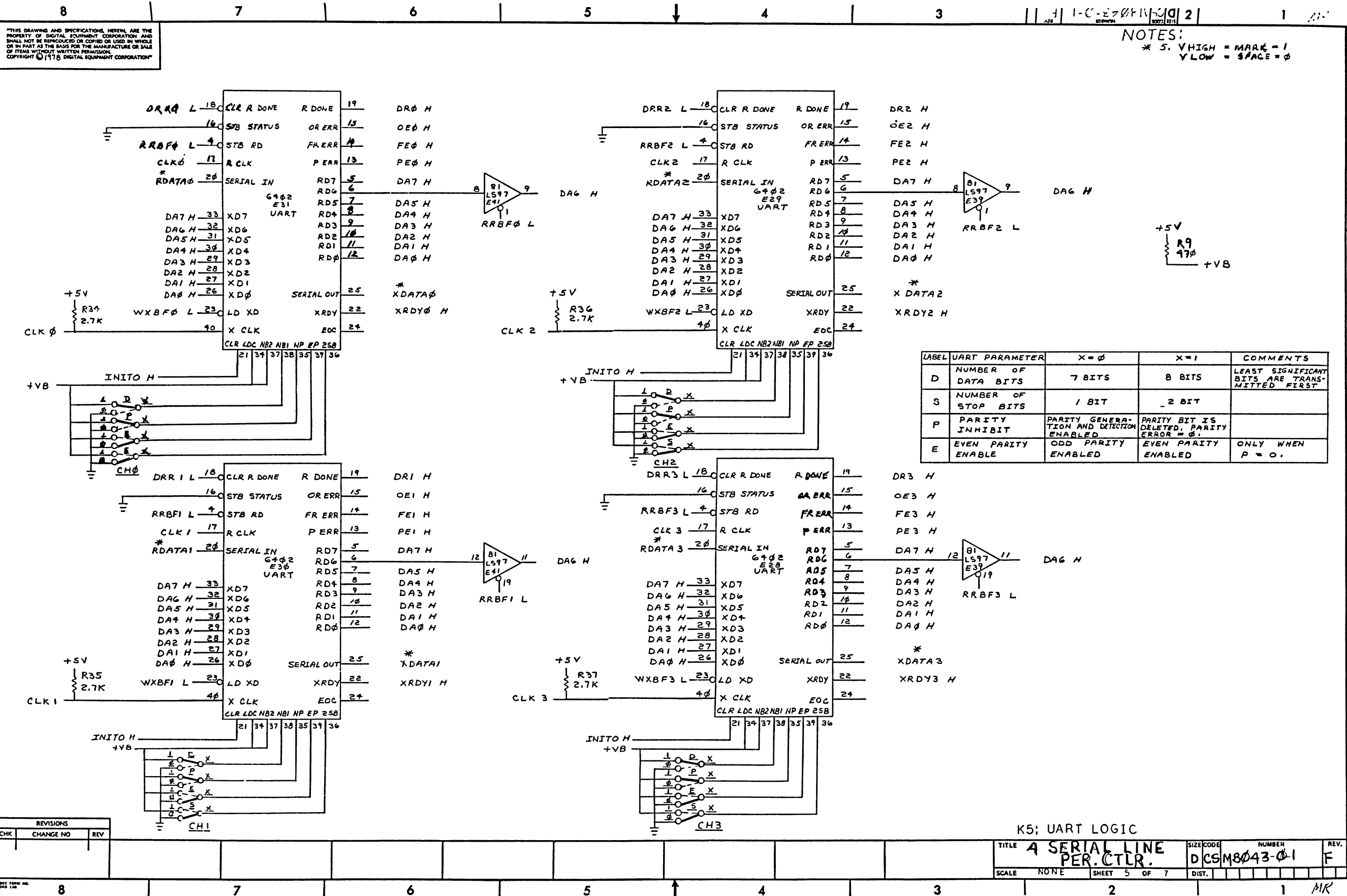




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	CON ENBL L = 0				CON ENBL L = 1			
E10	VECTOR 2 H	V2 H	V3 H	V4 H	VECTOR 2 H	V2 H	V3 H	V4 H
A1=1	1	0	0	0	1	0	0	0
A1·E1=1	1	0	1	0	1	0	1	0
A2=1	1	0	0	1	1	0	0	1
A2·A3=1	0	0	0	1	1	0	1	1
A4=1	1	1	0	0	1	1	0	0
A4·A5=1	1	1	1	0	1	1	1	0
A6=1	1	1	0	1	1	1	0	1
A6·A7=1	0	1	0	1	1	1	1	1
E1 = 0	0	0	0	0	0	0	0	0
E1·1=0	0	0	0	0	0	0	0	0

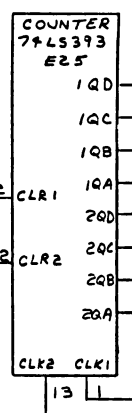
REVISIONS		
CHK	CHANGE NO	REV



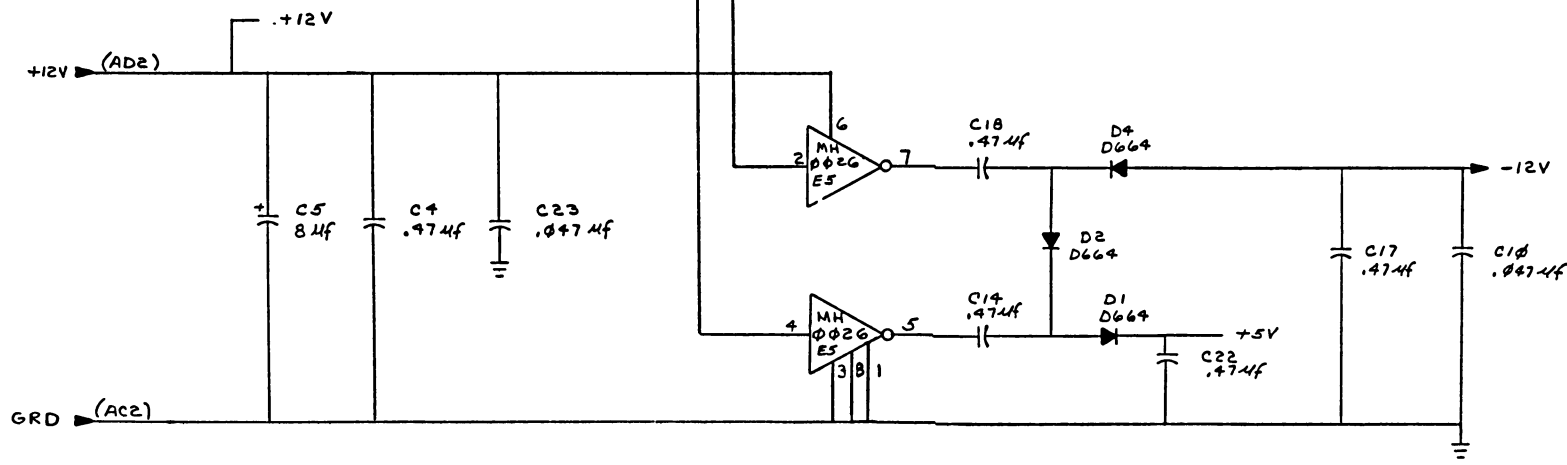
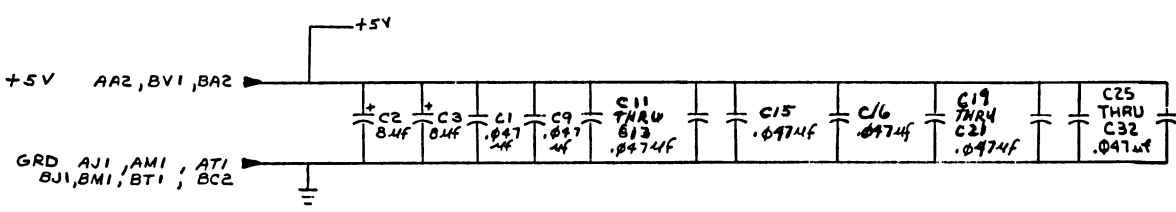
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NOTES:

6. CLK0-3 ARE WIREWRAP JUMPED TO REQUIRED BAUD RATE.  
7. JUMPER IS REMOVED FOR MFG. TESTING ONLY.  
8. UNLESS OTHERWISE SPECIFIED, THE FOLLOWING PIN NUMBERS APPLY:
- | PACKAGE    | GND | +5V | +12V | -12V |
|------------|-----|-----|------|------|
| 14 PIN DIP | 7   | 14  | -    | -    |
| 16 PIN DIP | 8   | 16  | -    | -    |
| 18 PIN DIP | 9   | 18  | -    | -    |
| 20 PIN DIP | 10  | 20  | -    | -    |
| 6402       | 3   | 1   | -    | -    |
| MH002      | *   | -   | *    | -    |
| 8640       | 1   | 8   | -    | -    |
| 9636       | 4   | -   | 8    | 5    |
| 9637       | 4   | 1   | -    | -    |
| 9638       | 4   | 1   | -    | -    |
| 4049       | 8   | 1   | -    | -    |
- \* SEE SCHEMATIC



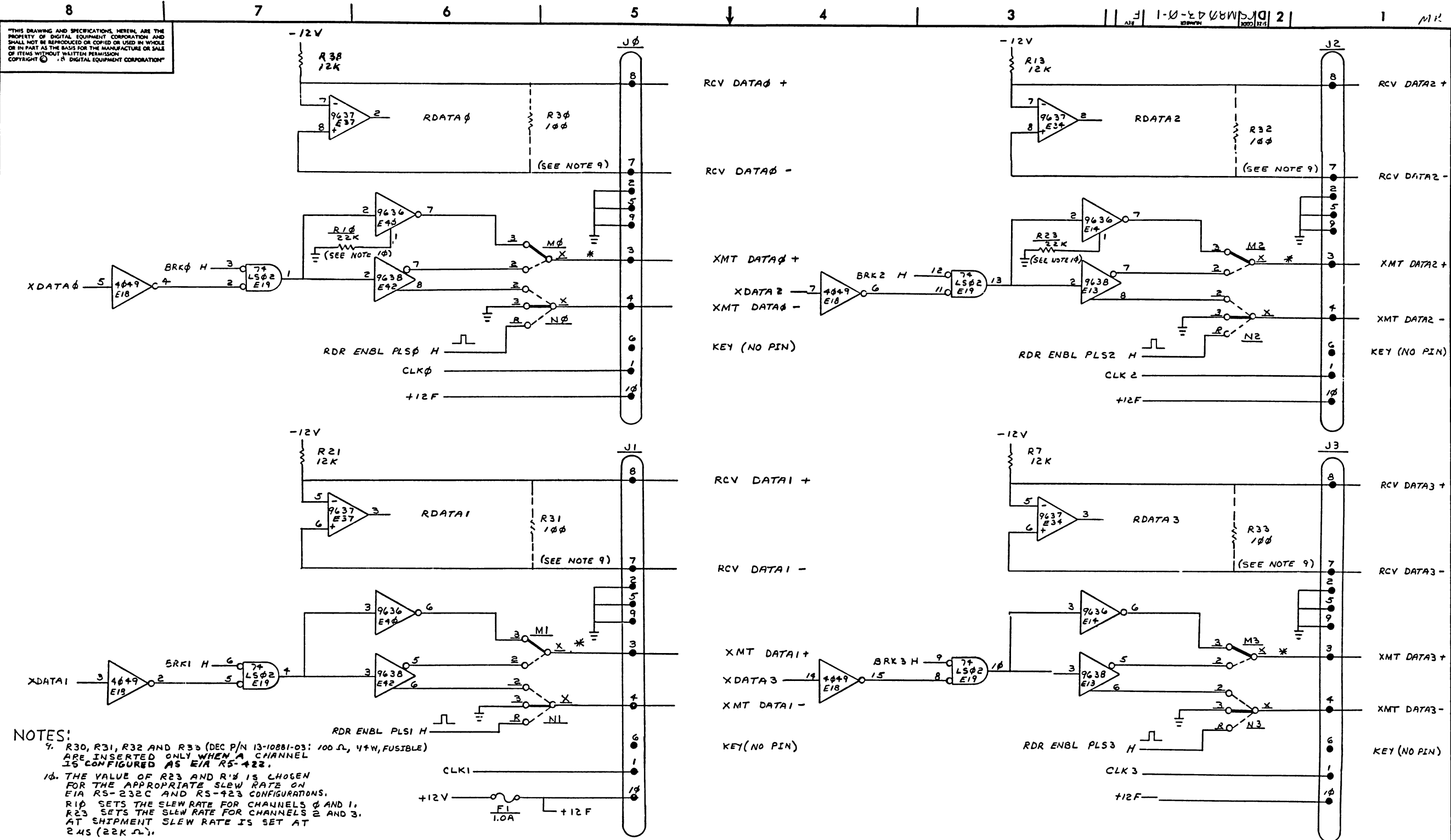
CLK3  
CLK2  
CLK1  
CLK0



K6: PWR DIST, BAUD RATE GEN & -12V CIRCUITRY

REVISIONS		
CHK	CHANGE NO	REV.

TITLE	4 SERIAL LINE PER. CTRL.	SIZE CODE	NUMBER	REV.
SCALE	NONE	SHEET	6 OF 7	F
DIST.				



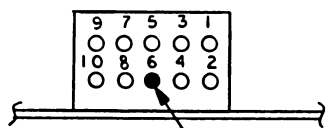
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- NOTES:
- 9. R30, R31, R32 AND R33 (DEC P/N 13-10881-03; 100  $\Omega$ , 1/4W, FUSIBLE) ARE INSERTED ONLY WHEN A CHANNEL IS CONFIGURED AS EIA RS-422.
  - 10. THE VALUE OF R23 AND R10 IS CHOSEN FOR THE APPROPRIATE SLEW RATE ON EIA RS-232C AND RS-423 CONFIGURATIONS. R10 SETS THE SLEW RATE FOR CHANNELS 0 AND 1. R23 SETS THE SLEW RATE FOR CHANNELS 2 AND 3. AT SHIPMENT SLEW RATE IS SET AT 2  $\mu$ S (22K  $\Omega$ ).
  - \* 11.  $\nabla$  LOW = MARK = 1  
 $\nabla$  HIGH = SPACE = 0

K7: LINE INPUT/OUTPUT LOGIC

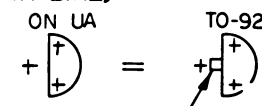
REVISIONS													TITLE		SIZE	CODE	NUMBER	REV.
CHK	CHANGE NO	REV											4 SERIAL LINE PER. CTRL.				DCSM8043-0-1	F
													SCALE	NONE	SHEET	7 OF 7	DIST.	

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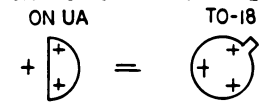
KEY (NO PIN)

NOTES:  
1. PLACEMENT OF Q1 FOR TO 92(LEADS  
IN-LINE)

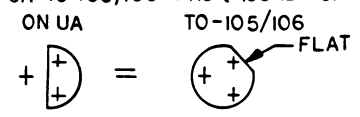


BEND MIDDLE LEAD OUT

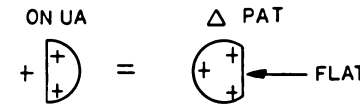
FOR TO 18 PKG (METAL CAN)



FOR TO-105/106 PKG (ROUND TOP PLASTIC)



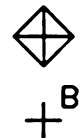
FOR LEADS IN TRIANGULAR PATTERN



NOTE: DIFFERENCE  
TO-92 VS



DETAIL A-A  
4 PLACES



48 (QTY 2)

9 (QTY 4)

COMPONENT SIDE VIEW

56

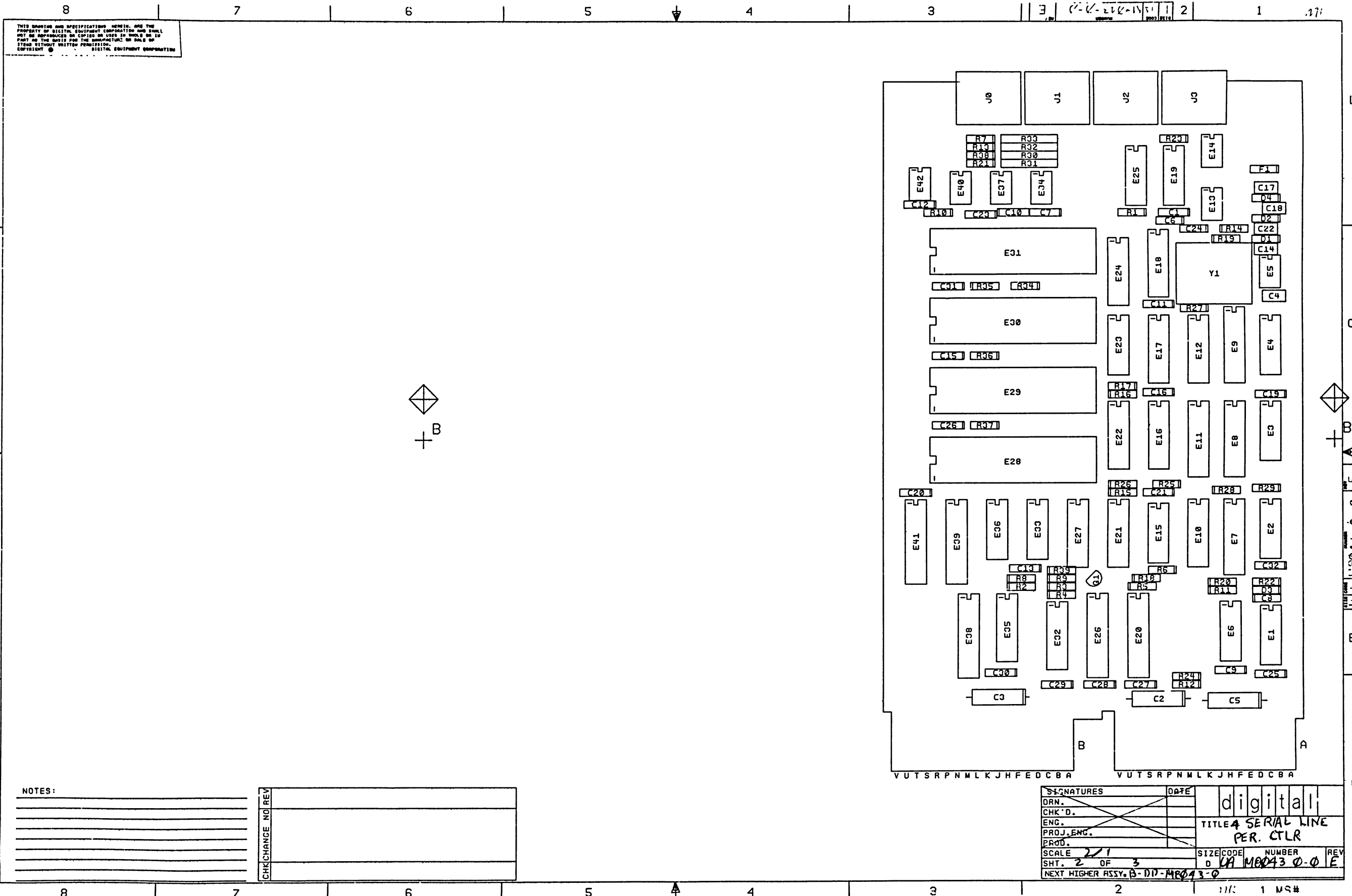
53  
(SEE NOTE 1)

NOTES: 1. R30 THRU R33 OPTIONAL  
2. CASE OF Y1 MUST BE INSULATED  
FROM PCB WITH ITEM #53  
3. \* DESIGNATES WIRE WRAP  
JUMPER (ITEM #56) INSULATED  
FOR SHIPMENT

CHG	NO	REV	DATE	BY	CHK
1	1	1	12-12-78	T. ZAJAC	
2	1	1	12-12-78	T. ZAJAC	
3	1	1	12-12-78	T. ZAJAC	
4	1	1	12-12-78	T. ZAJAC	
5	1	1	12-12-78	T. ZAJAC	
6	1	1	12-12-78	T. ZAJAC	
7	1	1	12-12-78	T. ZAJAC	
8	1	1	12-12-78	T. ZAJAC	
9	1	1	12-12-78	T. ZAJAC	
10	1	1	12-12-78	T. ZAJAC	
11	1	1	12-12-78	T. ZAJAC	
12	1	1	12-12-78	T. ZAJAC	
13	1	1	12-12-78	T. ZAJAC	
14	1	1	12-12-78	T. ZAJAC	
15	1	1	12-12-78	T. ZAJAC	
16	1	1	12-12-78	T. ZAJAC	
17	1	1	12-12-78	T. ZAJAC	
18	1	1	12-12-78	T. ZAJAC	
19	1	1	12-12-78	T. ZAJAC	
20	1	1	12-12-78	T. ZAJAC	
21	1	1	12-12-78	T. ZAJAC	
22	1	1	12-12-78	T. ZAJAC	
23	1	1	12-12-78	T. ZAJAC	
24	1	1	12-12-78	T. ZAJAC	
25	1	1	12-12-78	T. ZAJAC	
26	1	1	12-12-78	T. ZAJAC	
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29	1	1	12-12-78	T. ZAJAC	
30	1	1	12-12-78	T. ZAJAC	
31	1	1	12-12-78	T. ZAJAC	
32	1	1	12-12-78	T. ZAJAC	
33	1	1	12-12-78	T. ZAJAC	
34	1	1	12-12-78	T. ZAJAC	
35	1	1	12-12-78	T. ZAJAC	
36	1	1	12-12-78	T. ZAJAC	
37	1	1	12-12-78	T. ZAJAC	
38	1	1	12-12-78	T. ZAJAC	
39	1	1	12-12-78	T. ZAJAC	
40	1	1	12-12-78	T. ZAJAC	
41	1	1	12-12-78	T. ZAJAC	
42	1	1	12-12-78	T. ZAJAC	
43	1	1	12-12-78	T. ZAJAC	
44	1	1	12-12-78	T. ZAJAC	
45	1	1	12-12-78	T. ZAJAC	
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94	1	1	12-12-78	T. ZAJAC	
95	1	1	12-12-78	T. ZAJAC	
96	1	1	12-12-78	T. ZAJAC	
97	1	1	12-12-78	T. ZAJAC	
98	1	1	12-12-78	T. ZAJAC	
99	1	1	12-12-78	T. ZAJAC	
100	1	1	12-12-78	T. ZAJAC	

ETCH REV.	D-PI
P.C. DESIGN DATA BASE REV.	B

SIGNATURES	DATE	digital
DRN. [Signature]	12-12-78	
CHK'D [Signature]	12-12-78	
ENG. T. ZAJAC	MAR78	
PROJ. ENG. T. ZAJAC	MAR78	
PROD. [Signature]	MAR78	
SCALE 2/1		
SHT. 1 OF 3		
NEXT HIGHER ASSY. B-00-M8043-0		
TITLE 4 SERIAL LINE		
PER. CTRL		
SIZE CODE	NUMBER	REV
D UA	M8043-0-0	E



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NOTES:

CHANGE NO.	REV.

SIGNATURES		DATE	digital	
DRN.			TITLE 4 SERIAL LINE	
CHK'D.			PER. CTRL	
ENG.				
PROJ. ENG.				
PROD.				
SCALE	2/1		SIZE CODE	NUMBER
SHT. 2	OF 3		0	LA M0043 0-0
NEXT HIGHER ASSY. B-DP-M0043-0				



8

7

6

5

4

3

E

0-0-0-0

M8043

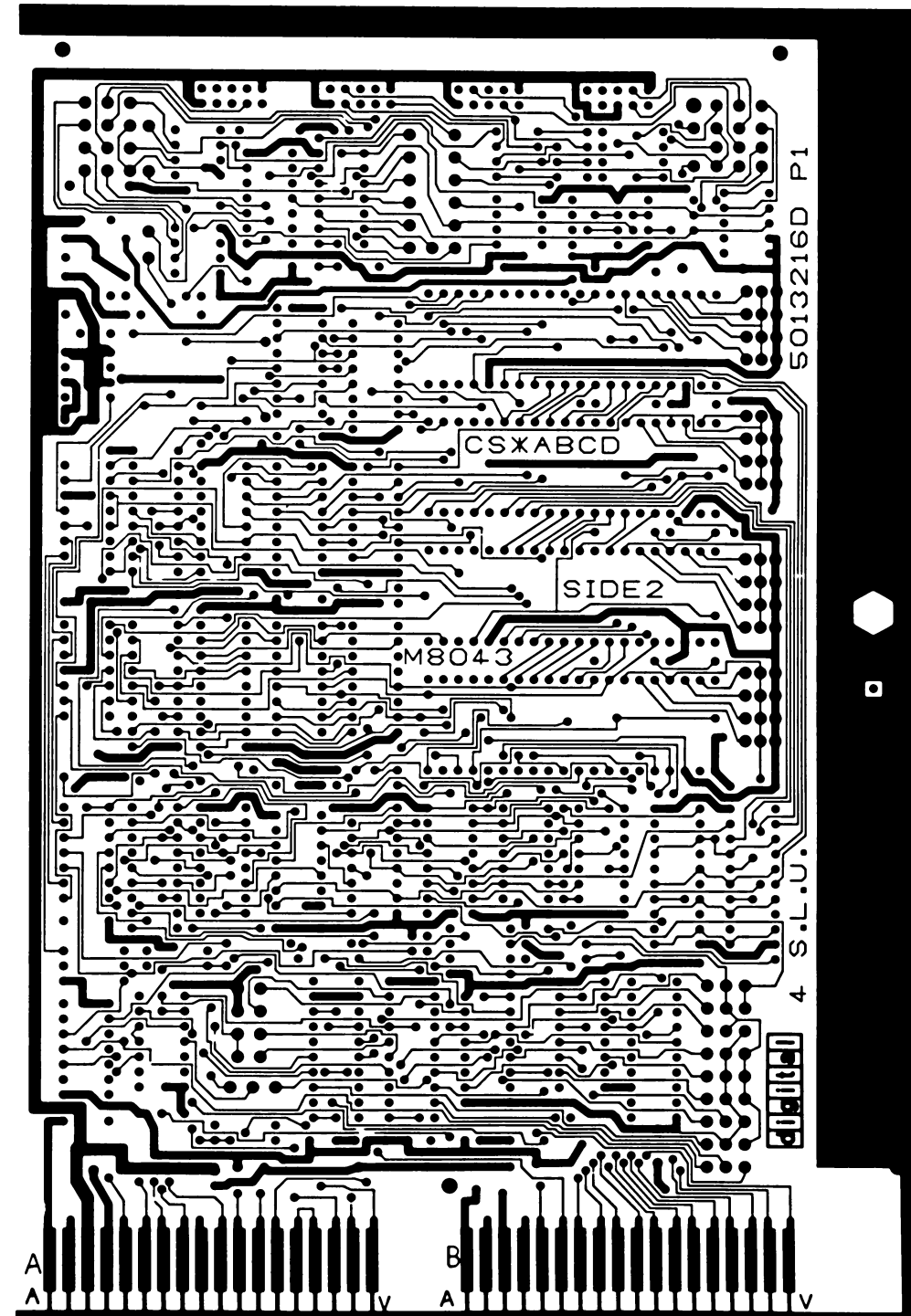
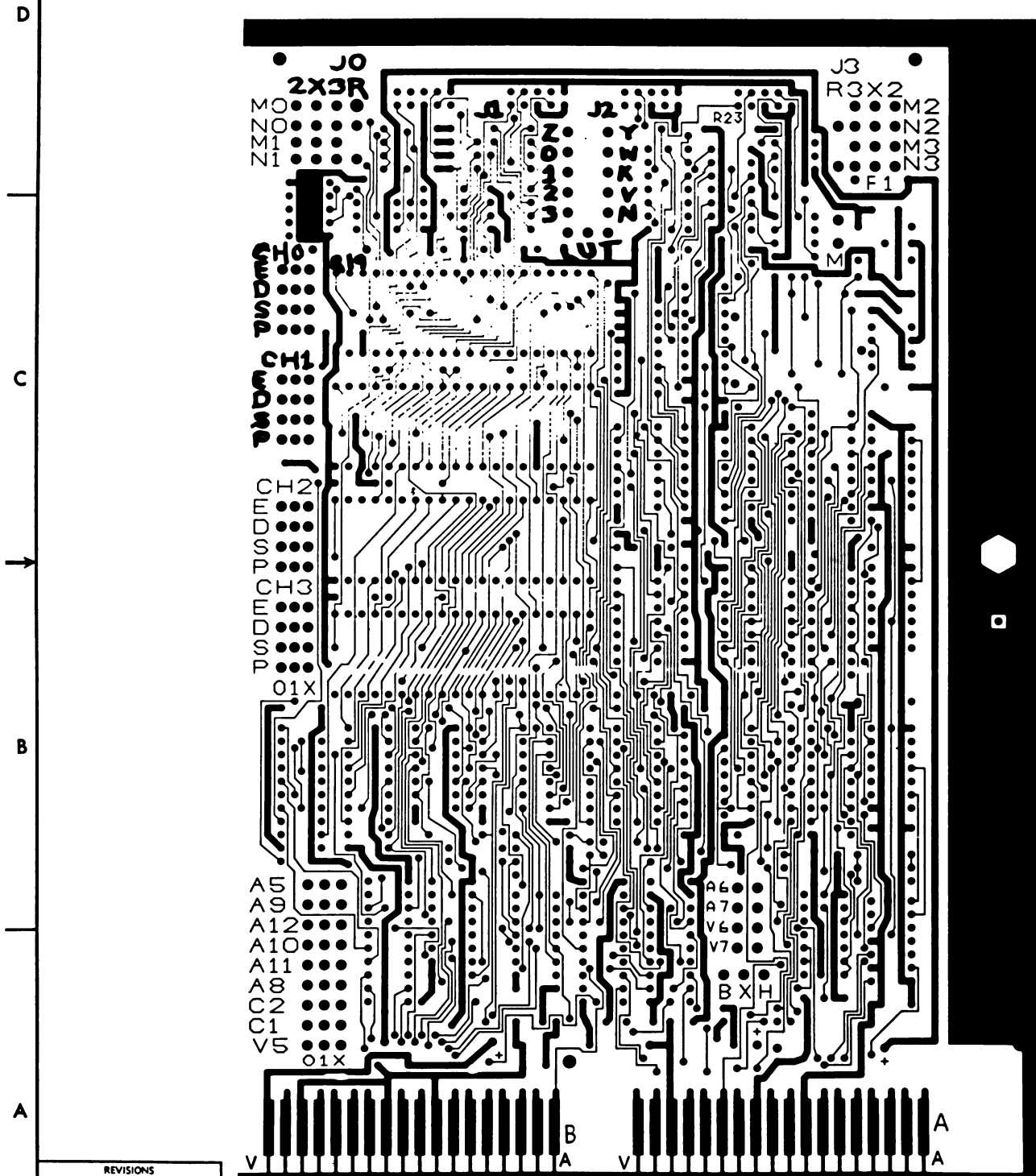
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